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ORIGINAL ARTICLES.

OPERATIVE TREATMENT OF THE DEFORMITIES RESULTING FROM INFANTILE SPINAL AND CEREBRAL SPASTIC PARALYSES.

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INFANTILE spinal paralysis and cerebral spastic palsy are diseases entirely different in their pathological conditions, their symptoms, causes, and prognosis. The one is due to an anterior poliomyelitis, with changes in the anterior columns of the cord; the other to a destructive lesion of the cerebral motor-cells; but the late results demanding operation that will be considered in this article possess certain similar deformities in common, so that the two conditions may surgically be considered together. Of course, in the one case we have atrophy, loss of reflexes, paralysis of certain groups of muscles, etc., while in the other we have rigidity, paralysis with muscular spasm, irregular and uncertain contractions, but little real and sometimes no apparent wasting of the limbs, and the electrical reactions are not lost. The reflexes are also exaggerated in the cerebral type.

The permanent results obtained by operation are much better in infantile paralysis, for the reason that the disease that has occasioned the deformity, although permanent in its effects, may be said to be definitive, and without that tendency to relapse that is seen in cerebral palsy; yet even in the latter class of cases a certain degree of benefit is attainable.

In an article read before the Tenth International Congress at Berlin in 1890, I showed the results that could be obtained from surgical procedures in a large majority of cases of infantile paralyses even when they were helpless and apparently hopelessly deformed. The minor distortions were not considered, nor is it my purpose here to call attention to any but the almost desperate class of cripples in whom locomotion has become almost impossible, and who spend their lives upon the floor or upon a bed, and who are usually looked upon by physicians as beyond surgical relief. I have operated upon a large number of these cases, and am more and more convinced that those wholly beyond help are exceedingly few in number. While they cannot be made perfect and strong, yet by operation the power of locomotion can be greatly increased, and aided by the use of canes, crutches, wheeled apparatus, etc., strength of limb will be secured, greatly to the benefit of the physical, mental, and moral condition of the patient. As only the stronger muscles are divided, muscular equilibrium is assisted. The muscles operated upon are improved, and when some ability to walk is gained, increase of power by exercise is soon apparent. Let anyone who thinks that locomotion does not improve these limbs, look at the legs of a ten-year old boy with untreated club-foot, and at another similar case in which operation has been done early during this period of years, thus securing normal locomotion.

In spastic cases, of course, the improvement to be expected is far less. The disease is more centrally located, and the mental power of these individuals is decidedly defective. The improvement will be in proportion to the brain-power already existing.[1]

These children are brought to the orthopedic surgeon by parents expecting that skill can supply what Nature has denied them. I have sometimes had as many as a dozen new cases brought to my office in a single week, many of them hopeless idiots, but whose deluded parents thought them bright, intelligent children. This delusion being such a happy one, it is often unkind to attempt to explain to parents the full degree of the idiocy. While an injured brain-cell can never be replaced by a good one, yet I am fully convinced that great physical, mental, and moral benefit is to be derived from placing these individuals in the upright position upon some form of locomotive apparatus. I am very careful, however, as regards the prognosis.

Mechanical measures as preventives of deformity are exceedingly important, but for purposes of rectification they cannot take the place of surgical procedures. I consider it barbarous to attempt to rectify the deformities in this class of cases by the long and painful process of pressure, when, during a few minutes of anesthesia, surgery is capable of producing the results desired.

[1] I have been much surprised at the number of these spastic children, as in former years my experience had been largely among infantile spinal cases. I note, however, that Townsend and Zacks have found that they stand in the proportion of 39 per cent. spastic to 61 per cent. infantile. N. Y Med. Journ., May 21, 1891; Trans. Med. Soc. State of New York, 1890.

After operation, the limb is in nowise inferior in strength and development to the one afforded by mechanical measures, while the serious loss of time and money and the pain incurred in the latter slow method certainly demand consideration. No physician has a right to take money from patients by a slow, painful, and expensive method, when it is so entirely unnecessary.

When infantile cases are neglected and proper preventive apparatus has not been used, deformity follows from: 1, Degeneration of muscles; 2, atrophy; 3, contractures; 4, deficient and retarded bone-growth; 5, distortion of skeleton produced by efforts at locomotion.

The deformities of contraction are usually in the direction of flexion. Generally speaking, surgical procedures should consist in the division of all the contracted tissues, whether tendons, muscles, or fascia. The great cause of failure is in the too limited division—not from extensive section. In the majority of cases *the tenotome* is sufficient for this work. Open incision is advisable when there is great risk of injury to the bloodvessels or nerves.

In hip-contractures a tenotome with a long shank, introduced in front of the anterior spinous process, is capable of safely severing the origin of the tensor vaginæ femoris, the sartorius, the long head of the rectus, and all of the contracted fasciæ. Strong pressure will usually complete the extension of the limb and rupture the remaining fascial adhesions, provided the patient is placed upon his face and the pelvis is properly fixed.

In cases in which the psoas or iliacus has become shortened, subcutaneous incision becomes too dangerous and open incision should be performed.[1]

For all operative procedures the rule should be to bring the limb into such a position that in locomotion it will be mechanically able to support the weight of the body. In hip-contractures in which at the time of the operation this cannot be entirely obtained, it may subsequently be gained by the application of pulley-and-weight extension in the horizontal position. This extension should be continuous, and it will usually result in benefit not only to the hip, but to the accompanying lordosis. The scoliotic spinal distortions so often found in these cases are the most troublesome element in cure.

Flexion of the knee may be relieved by tenotomy of the semi-membranosus, semi-tendinosus, and biceps. In old cases the contraction of the fascia is often very great, and when it extends to the mid-popliteal region, open incision should be performed. In a recent case, even after open incision, it was impossible to elongate the popliteal nerve, which was so displaced from thickening of its sheath that in a subcutaneous incision it would have been mistaken for a tendon.

The use of extreme force in straightening the knee after deformity should be avoided, because it is liable to produce posterior displacement of the head of the tibia. Unfortunately, this is frequently acquired from long continuance of the deformity, and, as described later, more radical measures for its relief may be necessary.

Deformities at the ankle and foot are very common in infantile paralysis, which has a special tendency to implicate the muscles of the lower leg. The deviation is in the direction either of flexion, extension, inversion, or eversion. In talipes equino-varus (the most common form of deformity), the section of the tendo Achillis only is seldom sufficient. The foot should be brought into the best mechanical position; this means, that in walking the foot should be brought squarely upon its sole, and that extension beyond a right angle shall be easily performed, without undue tension upon the tendon. Section of the tibialis anticus, tibialis posticus, and plantar fascia, and, in fact, of all contracted tissues should be thorough. It is better to bring the foot straight at the time of operation than to half do the work, and then torture the patient by subsequent attempts at mechanical rectification. As the internal plantar artery is a small vessel, its division is of no consequence. All the tissues should be divided, even the lateral and plantar ligaments, if necessary. Powerful force applied over a hard sand-bag as a firm fulcrum is often necessary to secure complete rectification. On the inner side of the foot, subcutaneous division heals more quickly and leaves less deformity than open incision, but the division of all the tissues, save the skin, is nearly the same in either case.

In valgus cases the mistake is often made of supposing that only the peroneals are contracted. This is owing to the fact that the anterior part of the foot can easily be brought into such position that flexion can apparently be made decidedly beyond a right angle. The error arises from the fact that undue motion is obtained at the medio-tarsal joint, which, with the sinking of the scaphoid bone, gives the appearance of full normal flexion. A skilled examination of these cases will show that the articular facet of the calcaneus does not by any means assume its normal relation with the tibia and fibula. That which apparently was full flexion of the foot, is in reality not so at all, since the tendo Achillis is entirely too short to permit of the proper relation. The inferior calcaneo-scaphoid ligament is elongated, the result being a distortion of this articulation, a painful condition of flat-foot and a tender scaphoid that renders locomotion extremely difficult and painful. This mal-position of the os calcis, from the contracture of

[1] Had I performed myotomy subcutaneously in a recent case I would most certainly have divided the anterior crural, which lay externally to its normal position.

the calf-muscles, is very common and is often overlooked. This was markedly illustrated in a case recently under my care. The anterior part of the foot could apparently be brought far beyond the normal angle of flexion, and yet the os calcis remained decidedly in the position of extension and required fully half an inch of material in the tendo Achilis to permit a proper position to be attained. When the tendo Achillis is thus contracted, the strain in walking brought upon the calcaneo-scaphoid articulation is, as stated, very great, and its results harmful. For easy walking, flexion of the foot should be possible for from fifteen to twenty degrees beyond a right angle.

Section of the tendo Achillis, as well as of the peroneals, is, therefore, an important matter in the treatment of those cases; nor should the forcible reduction and subsequent retention of the misplaced scaphoid by gypsum be omitted. Continued retention of this misplaced bone should be secured by the use of a support placed beneath the plantar arch, which will assist in holding the bone in position, while at the same time the position of the bones of the foot should be altered by raising the inner side of the sole of the shoe so that the individual walks as upon the side of a hill. Care should be taken in the primary dressing to bring the calcaneum into its proper position.

For the primary dressings after any or all sections I prefer plaster-of-Paris. It sets rapidly, secures absolute rest, and favors healing. If swelling occurs, the cast may be slightly opened, or windowed, or if necessary removed.

In talipes calcaneus an open incision over the tendo Achillis, the removal of a section, and the suturing of the two cut ends with sterilized catgut will be helpful.

Under antiseptic conditions the subcutaneous operation is a safe one. I have performed it hundreds of times, and have never had a case of suppuration. If a surgeon operates upon a dirty foot with septic instruments he must expect poor results. Very few attendants will properly cleanse the epithelium from a deformed foot.

Open incision, with splitting and suturing the tendon, has been recommended on the ground that by the subcutaneous method we do not secure the exact amount of material required. I certainly have never experienced this difficulty, and, except in calcaneus, I see no occasion for the employment of the open method. If the foot is fixed in the proper position, Nature will supply the exact amount of material required, and the resultant tendon will be just the one necessitated by the case. I have had two and three inches inserted in a tendon and never had weakness as a result. I would expect to have such an accident if after the operation I followed the British plan of dressing the foot in the deformed position and then attempted later to rectify the deformity. Nature is perfectly capable of throwing out the one hundred parts required to bridge this gap, and will undoubtedly do so when called upon. When dressed in the deformed position possibly fifty parts are deposited which are necessarily incapable, when elongated, of filling the gap. A hundred parts could just as easily have been secured.

The question of age is of no special importance except as regards bone-distortion. Prompt healing of the tendons may be expected if careful antisepsis has been employed and subsequent rest enforced.

Resection of the knee is sometimes necessary when the displacement of bone is very great and when the distortion of the head of the condyle or of the head of the tibia is very marked. It is also sometimes desirable in a frail limb, when apparatus cannot be afforded and when a stiff knee will be of more service; also when there is a bad condition of genu-varum, valgum, or recurvatum.

In old cases resection of the astragalus or of other tibial bones is occasionally necessary, but, as a rule, thorough division of the contracted tissue and extreme force will rectify this condition.

Although sometimes justifiable, it is but rarely that amputation or osteotomy will be necessary.

Mechanical appliances. Rest should be maintained until all danger from inflammation is past. After two weeks crutches may be used and mechanical appliances employed. No rules can be given for the making of the apparatus. It must be so adjusted that it will keep the limb in the best position for walking and as accurately as possible in the normal position. Feeble muscles must be assisted by elastic or spring force, and, as necessary, a stop-joint or a locked joint employed. Every muscle should as early as possible be compelled to do its fullest possible work. In many cases with which we have to deal it is impossible to expect voluntary locomotion at first. Patients must be assisted by wheeled crutches or by crutches or canes in addition to apparatus. These appliances are as necessary to these cases as is an artificial limb to a man whose leg has been amputated. Electricity, massage, gymnastics, etc., should never be omitted.

Simple tenotomy of all the contracted flexor tendons is usually required. Myotomy of the adductors is also quite frequently necessary. The necessary operative procedures have already been described.

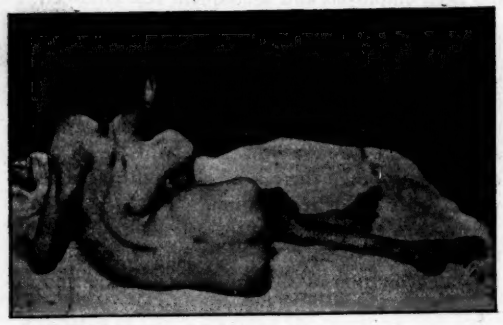
I present a few illustrative cases:

CASE I.—J. C., seventeen years of age; infantile paralysis. Thighs flexed permanently. Has not walked for two years. Right foot equino-valgus; left, equinus. Pelvis, greatly tilted. Extreme lordosis; excessive lateral curvature of the spine with

marked rotation, protrusion posteriorly of left thorax. Arms, strong. The condition is shown in Fig. 1.

Tenotomy of the tensor vaginæ femoris, of the semi-membranosus and the semi-tendinosus on both sides; also of the tendo Achillis on both sides and of the peroneals on the right. Forcible extension and retention in plaster-of-Paris. Apparatus applied in six weeks. Legs still very helpless. Must walk on crutches for some time. Great difficulty in applying the apparatus on account of the lateral and backward tilting of the pelvis, which can never be cured, although extension and counter-extension while in bed has greatly helped the condition.

FIG. 1.

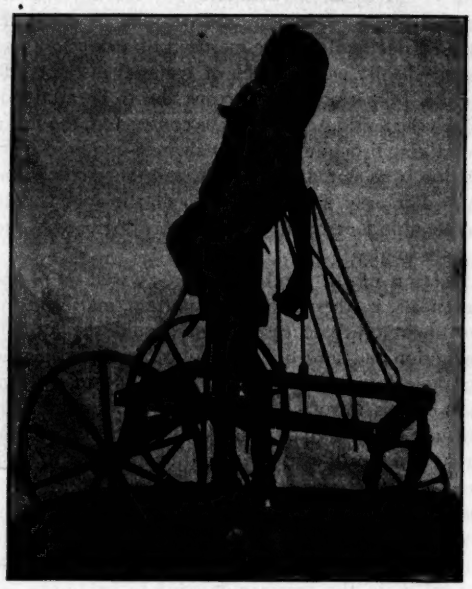


CASE II.—W. W., fourteen years of age; infantile paralysis in childhood. Has never walked since. Legs absolutely helpless. Flail legs from hip. No voluntary action in foot or toes. Excessive lordosis from tilting of the pelvis, which was raised on the right side three inches above the left. Excessive lateral curvature with rotation of the vertebræ and prominence of the left thorax posteriorly. Arms also extensively atrophied and very helpless. Flexion at thigh to a right angle; at knee nearly the same. Right foot, equino-varus; left, valgus. The whole body greatly emaciated and from insufficient food illy nourished.

The child was so feeble that after tenotomy on one side had been performed, it was necessary to wait several weeks before the other side could be operated upon.

Tenotomy of the tensor vaginæ femoris, the sartorius, and long head of the rectus, the hamstring tendons, and the tendo Achillis on both sides. The knees and feet were brought straight, but the thighs could not be put in normal position; nor could the pelvis be brought into its proper relation to the spinal column, because the latter was so greatly distorted. Long extension and counter-extension, however, added to the benefit obtained at the time of operation, but even after an apparatus with rigid joints was applied from the thorax to the feet, the arms were incapable of supporting the patient upon crutches. A wheel-crutch (see Fig. 2) was therefore constructed in order to support the weight of the body until locomotion could assist in giving some power to the legs. With this he was able to progress very well. A leather jacket encircled the body. Six months later the increase in the size of the legs was much marked, and the boy could knock them straight from the hip.

FIG. 2.



CASE III.—L. C., fourteen years of age; infantile paralysis in infancy; has never walked since except with apparatus with rigid joints. Flexion of both knees; hips and ankles are in good position; lateral curvature of the spine, with left rotation. Section of the hamstring tendons. Apparatus constructed; leather jacket; movable joints in apparatus, with elastic strings to assist all weakened muscles. With such assistance, after three months he was able to walk a mile. He was kept in plaster-of-Paris dressing for four weeks.

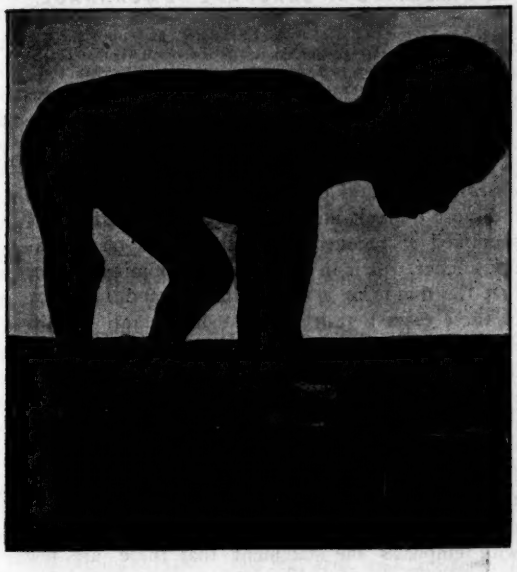
CASE IV.—J. M., eleven years of age; absolutely helpless from infancy; has never walked. Great flexion of hips and knees; feet but slightly distorted, as they have never been used. Tenotomy; plaster-of-Paris dressing; apparatus. Walked with crutches at the end of six weeks, with cane at the end of seven months, and is still improving.

CASE V.—A. M., ten years of age; has never walked since an attack of infantile paralysis at one year of age. Hips and knees in fair condition; talipes equino-varus of left foot; equino-valgus of right foot.

Section of tendo Achillis and of the contracted fascia on the left side, and of the same tendon and of perineals on the right; plaster-of-Paris dressings; apparatus in five weeks. At the end of five months walking without cane and without fatigue for several blocks.

CASE VI.—R. C., three years old, has never walked, except upon all-fours, as shown in Fig. 3. Flexion at right angle. Section as described. Can now walk on crutches, and is gaining strength.

FIG. 3.



CEREBRAL SPASTIC CASES.

I am confident that in these cases the benefit to be derived from locomotion is not to be gained by any other means. The effect upon the physical well-being is marked; mental development occurs and is assisted by bringing the individual into contact with the world, an effect that should not be underrated. Some may say that brain-cells cannot be replaced. This is certainly true, but, as in a case of enfeebled muscles, constant exercise tends to stimulate growth and development. This action may be described as a benefit to be derived from without inward, but it is nevertheless positive. That it can produce a fully developed mind no one claims, nor can fully developed muscles be secured, but at the same time the gain derived is positive and decided.

The most common deformity in spastic cases is flexion of hip and knee, with contraction of the gastrocnemius and soleus. Adduction of the thigh is also frequent. All the deformities increase greatly as soon as the patient stands upon his feet.

In dressing these cases, I usually over-correct the equinus, them apply gypsum bandages to retain it in this position. The knee is then rigidly fixed in a straight line, and a continuous dressing from feet to perineum is applied. This permits complete and perfect abduction, to be secured by simply separating the feet.

After myotomy of the tensor vaginæ femoris and fascia, the weight of the plaster-cast is usually sufficient to lessen the hip-flexion, but weights are sometimes necessary. The hip-flexion is the one most liable to relapse when the upright position is resumed; hence I often use the wheel-crutch for a time, in order to take off the weight of the body.

Apparatus for these cases is often very complicated and expensive, and even then insufficient. I have long tried to secure a wheeled support for these unfortunates, but all those in the market are so expensive as to place them far beyond the reach of a large number of sufferers. With the valuable and helpful assistance of Dr. George E. Shoemaker, I have now constructed such a support that is both practical and cheap. To save expense we must use material that is already in the market. The running-gear of baby-coaches, or of children's express-wagons, or buckboards are utilized. These can be procured at from four to six dollars a set. For young children, or for those so feeble-minded or feeble-muscled as to require attendants, a baby-coach running-gear frame can be utilized so that it can be guided or pushed.

Upon the frame is erected a crutch-support. The crutch-head can be raised or lowered by a nut and thread. Jar is prevented by rubber washers. The width of the crutch-heads will vary with the diameter of the thorax. For very helpless cases a broad supporting belt of leather encircles the chest. For children who are strong and able to control themselves, the hind wheels are similar to the fore ones, but the latter are pivoted, as in rolling-chairs, ward-carriages, etc., thus permitting movement in any direction.

In hospitals with long halls a longer apparatus with self-steering gear, as seen in the illustration, may be employed, and is very useful in educating patients to walk. When an infantile paralytic, say fourteen years old, has never been up on his feet, it is not to be expected, even for a long time, that he will know how to use his feeble muscles. In spastic cases, many who cannot walk at all without this apparatus can by its aid make very comfortable progress.

The following are illustrative cases:

CASE I.—Cerebral spastic paralysis from birth. Walks on tips of toes; toes inverted in position of talipes equino-varus; knees, thighs, and adductors flexed; moderate degree of mental impairment; marked internal strabismus; cannot walk without support, and then with the usual staggering gait.

Section of the tendo Achillis and of the adductors. Knees forcibly straightened and retained by plaster-of-Paris dressing from toes to perineum; limbs widely parted and fastened; apparatus applied. In six weeks heels well down upon the floor, although still pigeon-toed.

CASE II.—G. B., nine years of age. Very low degree of mental development; unable to talk, but

can articulate a few words; unable to stand except with support. When voluntary motion is attempted, hips, arms, and legs are in a state of constant spasm.

Tenotomy of the hamstring tendons and tendo Achillis both sides; extension in bed. Wheel-crutch constructed so as to be pushed by a nurse like a baby carriage. In this manner patient is able to progress with much less spasm, and can bear considerable weight on his legs. No improvement in mental condition anticipated.

CASE III.—L. L., one year of age. Suffered injury by forceps at birth. No decided depression discovered in skull; very feeble intellect; can only stand when supported; talipes equinus in both feet.

Section of the tendo Achillis. Put upon a wheel-crutch at the end of six weeks, and with the aid of a nurse could walk with much comfort and pleasure.

CONCLUSIONS.—1. The deformities of infantile paralysis can be prevented by apparatus, but if this has been neglected and distortion has occurred, secure the best possible limb by immediate surgical procedures, and in some way make the patient walk.

2. Apparently hopelessly distorted cases can be put upon their feet. Even great deformity of limbs resulting from infantile spinal paralysis should not deter us from the attempt to straighten the limb and give the individual the power of locomotion.

3. Atrophied limbs can be straightened and can then be incorporated as a part of the locomotive apparatus.

4. Exercise is capable of developing even badly shrunken limbs, and continuous improvement may be expected.

5. In the majority of cases, easier, quicker, and better rectification is secured by surgical than by mechanical measures. In order to avoid pain and save time, immediate rectification, if possible, should be the rule.

6. After straightening, mechanical appliances in the shape of apparatus, canes, crutches, wheeled crutches, etc., are usually required and should be employed.

7. Tenotomy and myotomy do not cure the disease in either form of paralysis, but the results are most helpful in promoting the health and happiness of the individual.

8. Wheeled crutches are very helpful in getting these helpless individuals upon their feet. These supports can be made of inexpensive material and on a simple plan.

9. In spastic cases relapse is much more common than in infantile paralysis, but the great benefit to the body and mind of the individual that is secured by locomotion amply repays for the attempt at rectification.

THE DIAGNOSIS OF CEREBRAL HEMORRHAGE.[1]

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"OF all the diagnostic problems presented to the physician," says Gowers, in his work on *Nervous Diseases*, "that of cerebral hemorrhage is at once the most difficult and urgent." The diagnosis is simplified if recovery from the acute manifestations occur. It is in the grave and fulminant cases that the diagnosis is most difficult, and it is just in these cases that it is most important. Nothnagel, in *Ziemssen's Cyclopedia*, states that "the diagnosis, of hemorrhage or of embolism or of thrombosis cannot in any case be unreservedly made." With these qualifications let us endeavor to summarize and arrange side by side the special features that distinguish cerebral hemorrhage from those conditions that may simulate it. To no condition more than to cerebral hemorrhage applies with emphasis the statement that there are few pathognomonic signs in disease. Among other causes, the symptoms in this condition are due to the results of pressure, suddenly induced, and to destruction of cerebral tissue. Any other state, in which like influences are active, will be attended with similar manifestations.

In a consideration of cerebral hemorrhage all the forms of intra-cranial extravasation of blood are sometimes included. All display many symptoms in common, but there are certain features that, when present, distinguish the one from the other.

Let us first briefly pass in review the more common symptoms of intra-cranial hemorrhage. The two most prominent and characteristic are loss of consciousness and impairment of motion. Either may be present in varying degree. The second may not become evident until the first has passed away. The loss of consciousness may occur suddenly—constituting the so-called apoplectic shock—or it may set in gradually. It may be transient or protracted, and of an intensity from the slightest to the most profound. There are no true prodromata, except in cases of ingravescent apoplexy, in which the hemorrhage takes place gradually. So-called prodromata are usually due to the existence of the conditions favorable to the production of hemorrhage or to the occurrence of minute capillary hemorrhages.

In the attack, the breathing is usually slow, labored, noisy, but it may be rapid and shallow. The face is apt to be flushed, but it may be pale. The pulse is often slow, hard, and full, but it may be weak, rapid, and irregular; the carotids

[1] Read before the Northern Medical Association, June 12, 1891.

may pulsate. The pupils may be dilated or contracted, perhaps unequally, but they are usually sluggish or immobile. Perhaps even during the coma some difference between the muscular tone on the two sides of the body may be detected. The reflexes may be absent or exaggerated, but they are likely to differ on the two sides. Control of the sphincters may or may not be lost. Convulsions may occur, but are uncommon. There may have been nausea and vomiting. The head and eyes are usually turned from the side on which the paralysis occurs and toward that on which the lesion exists. The patient may die without emerging from the coma. Should consciousness return, the loss of muscular power becomes more evident. The temperature during the initial stage was perhaps subnormal, but now rises several degrees above the normal. The general symptoms gradually ameliorate, and in the course of several months there remain only those dependent upon the direct injury that the brain has suffered. The paralysis is usually of the hemiplegic type. The leg, arm, and face are paralyzed on the side opposite when the lesion is situated above the decussation of the fibers of the facial nerve, at the middle of the pons. The tongue, protruded, deviates to the paralyzed side. The lower part of the face is affected. The orbicularis palpebrarum and the occipito-frontal muscles are not involved. The face is drawn to the unparalyzed side, the angle of the mouth droops, and saliva dribbles. If the lesion is situated in the lower half of the pons the facial fibers are affected on the same side as the lesion, and the leg and arm on the opposite side. The asymmetry is evident when an attempt is made to pucker the lips, as in whistling, or in showing the teeth. Emotional movements, however, are symmetrically performed. Gradually there is some restoration of function, greatest in degree in least specialized parts and in those that participate in bilateral movements. The knee-jerk is exaggerated. Associated movements occur. Mental deterioration sets in.

The diagnosis would be easy if every case presented such a complete clinical picture; but in individual instances the symptoms are present in varying degrees of completeness. Again, cases are not always seen from the onset, and the history is frequently wanting.

In making the differential diagnosis cases of cerebral hemorrhage are to be separated: 1, from disorders due to intra-cranial lesions; 2, from conditions due to remote pathological changes. The distinction is further to be made from affections that for the want of a recognized lesion are called functional, such as epilepsy and hysteria. Probably in all of these conditions the symptoms arise from influences acting upon the cerebral cells and structure, but, on the one hand, the impression is direct and local, while, on the other, it is transmitted through the circulation as a result of changes extraneous to the cranial cavity. Let us first consider the latter.

Uremia may set in with convulsions, followed by coma. Convulsions are not common in cerebral hemorrhage. If they occur at all, they are more apt to appear late rather than as the initial symptom of an attack. As a rule, the coma in uremia is not so profound as in hemorrhage, though, as already stated, in the latter it may be of any degree of intensity. The existence of Bright's disease may have been known prior to the attack, or albumin and tube-casts may be present in the urine, but as the conditions present in Bright's disease are predisposing factors in the causation of cerebral hemorrhage, too much stress cannot be laid upon these points; besides, it is recognized that albumin appears in the urine in cases of cerebral hemorrhage uncomplicated with disease of the kidney. The temperature is at first apt to be low in uremia, as in hemorrhage, but there is no secondary elevation, unless there be a complicating inflammation.

Cerebral edema may be associated with a uremic attack, and give rise to motor symptoms, but, should the patient rally, these prove but transitory. Ophthalmoscopic examination may reveal the existence of an albuminuric retinitis. In uremia, the writer has observed that the breath and body have a peculiar musty odor, not encountered in cerebral hemorrhage.

In diabetic coma, in contradistinction to cerebral hemorrhage, the loss of consciousness is not abrupt. It may set in with somnolence. The pulse is weak and rapid. There is no paralysis. The breath may exhale an odor resembling chloroform. Then, an examination of the urine reveals the presence of sugar, while other manifestations of diabetes may also be evident.

In alcoholism the diagnosis may be embarrassed by many doubts. Examination of the urine may detect the presence of alcohol. Anstie's test consists in the production of a bright emerald-green color by the addition to fifteen minims of urine of one part of a solution of one part of chromic acid in three hundred of sulphuric. The patient, however, may have been drinking when the hemorrhage occurred, or stimulants may have been administered with the onset of the attack. The absence of the odor of alcohol in the breath and the absence of alcohol in the urine are more significant, and strengthen the probability of the existence of hemorrhage. Indulgence in alcohol, too, is an exciting cause of hemorrhage into the brain. In the stupor from alcoholism, however, the patient can be aroused by appropriate stimuli, as by ammonia or by shouting. The pulse is soft and rapid,

there is muscular relaxation, but no paralysis, and the reflexes are not altered from the normal. The pupils are dilated, the conjunctivæ injected. The temperature may be subnormal, but there is no secondary fever. Recovery, should it take place, is comparatively rapid, and may be facilitated by inhalations of ammonia or by evacuating the contents of the stomach and bowels. Edema of the brain may be present, as in uremia, increasing the difficulty of diagnosis.

In opium-poisoning the coma occurs gradually, the pupils are small, but equal, the breathing is feeble, shallow, and infrequent, and there may be vomiting. The patient, however, can be aroused, and he responds to stimuli. There is no paralysis, no elevation of temperature. If no complication exists, under appropriate treatment the return to the normal condition is rapid.

In poisoning by chloroform or by hydrocyanic acid, the odor of the breath is distinctive. In the first the heart's action is rapid and tumultuous, the pupils are dilated, and there is general anesthesia. In the second, inspiration is peculiarly short, and expiration is prolonged and labored. In the case of both, the sequelæ of cerebral hemorrhage are wanting.

In asphyxia, from whatever cause, the breathing is embarrassed, and there are all the evidences of respiratory obstruction. The face is livid and congested. Convulsions and coma ensue, and if the cause be not removed death follows. The symptoms are general, not local or unilateral.

In syncope and in cerebral anemia the conditions are much alike. The face is pallid, the pulse is rapid, feeble, fluttering, the respiration is sighing, the extremities are cold, and there may be nausea and vomiting—all of which may be improved by the exhibition of stimulants.

Cerebral congestion may be owing to fulness of the veins due to obstruction, or to deficient *vis à tergo*, or to fulness of the arteries from cardiac overaction. Should loss of consciousness occur it is of but brief duration, or only partial. Loss of power is slight or absent, and not lasting, while there are no variations of temperature and the symptoms are speedily recovered from. Most probably there have also been previous attacks of the same kind.

The facial palsy resulting from cerebral hemorrhage is to be distinguished from paralysis of the muscles supplied by the facial nerve as a result of disease of the nerve or of its nucleus, by the escape of the orbicularis palpebrarum and the occipito-frontal muscles; by the fact that associated and emotional movements of the face are symmetrically performed, and that atrophy and degenerative reactions do not follow.

Hemorrhage into the cord or spinal apoplexy also occasions paralysis, but usually in the form of paraplegia. It is most apt to occur in the young, with a history of syphilis. The patient feels a sudden, sharp, stinging pain in the back. There is no loss of consciousness, or should there be it is but passing. If the hemorrhage is into the membranes, there will be tonic convulsions of a tetanic character.

Epilepsy ought not to be confounded with cerebral hemorrhage, but, seen in the stage of unconsciousness, some doubt may arise. The diagnosis of convulsions symptomatic of intra-cranial disease is intimately connected with a recognition of the exciting cause. In so-called idiopathic epilepsy convulsions precede coma, the tongue is apt to be bitten, there is no paralysis, the temperature may be elevated, but it is not at first depressed, and there is a history of previous attacks.

Sunstroke occurs at a particular season of the year, during the heated term. If cerebral hemorrhage shows any preference for season, the larger number of cases in this climate occur in the spring. In sunstroke the temperature is from the outset high, at times exceedingly so, and the skin is dry and burning. Coma is ordinarily not protracted or profound. Headache and vesical disorders may be sequelæ—paralyses never.

It can be readily enough conceived that symptoms of cerebral hemorrhage may develop in an hysterical person; but one ought not to be deceived if he bear in mind the age of the patient, the sex, and perhaps a known menstrual derangement. A discriminating eye will be able to distinguish the feigned attack from the genuine one. On the other hand cerebral hemorrhage may occur in an hysterical individual, and the manfestations of the one should not be permitted to obscure the more grave condition.

The distinction of cerebral hemorrhage from other pathological intra-cranial conditions divides itself into the differential diagnosis of the various kinds of hemorrhage, with some reference to their location, the separation from vascular obstruction and that from other varied conditions.

Should abscess of the brain give rise to loss of consciousness, this is apt to have been preceded by other symptoms. A cause for an abscess may be found in some previous injury or contiguous inflammation, or a general pyemic condition. Chills, fever, and sweats are apt to have occurred, perhaps with symptoms of pressure. Hemorrhage may take place into an abscess, adding its own peculiar symptoms to those previously existing.

Hemiplegia or local palsies may result from tumors of the brain. These are most commonly gliomata, gummata, or tuberculomata. Their favorite situation is at the base. They are marked by intense headache and papillitis, the symptoms are slow

in onset and progressive in course, so that if loss of consciousness occurs and manifestations of an apopletic seizure appear, they do so in the last stage of the disease. Convulsions may also occur. The existence of tumors in other parts of the body may afford material aid in the recognition of a growth in the brain.

Concussion of the brain, contusion, laceration, and compression, result from varying degrees of violence and present gradations of cerebral disturbance. Concussion occasions the symptoms of mild shock: pallid face, weak pulse, shallow respiration; the symptoms are of brief duration, unattended with the sequelæ of hemorrhage. Contusion and laceration are conditions difficult to recognize and present symptoms varying in intensity from those of concussion to those of hemorrhage. In compression, there are present conditions that give rise to some of the manifestations of hemorrhage. In all of these the diagnosis essentially depends upon the recognition or the knowledge of the antecedent causative agency.

Meningeal hemorrhage may result from traumatism or from the bursting of an aneurism; it may be a complication of thrombosis of a cerebral sinus; it may occur in infectious diseases and in general paralysis of the insane. In the newborn, it is caused by violence during labor, from the application of the forceps, or by compression of the head in its passage through a narrow birth-canal. It is doubtful whether or not it is the more common in head-last labors. In these cases of birth-palsy, the manifestations of the lesion may not become apparent until later in life. A considerable number of cases of spastic paraplegia, congenital chorea, epilepsy, and idiocy are related to this condition. They may be recognized by the fact that the manifestations are not progressive, but stationary, and that there is no history of onset subsequently to birth. As a rule, the symptoms attending meningeal hemorrhage in adults are almost identical with those of extensive intra-cerebral hemorrhage. It may be that the paralysis is more extensive, involving perhaps all four extremities. The diagnosis largely depends upon a knowledge of the preëxisting condition (aneurism) or upon a history of injury.

In cerebral embolism, the diagnosis is based upon the existence of an endocarditis, of valvular vegetations, or of vascular atheroma or other source of embolus, upon the suddenness of onset, upon the transitory character of the symptoms, the limitation of the local manifestations, and the frequent occurrence of aphasia, together with right-sided hemiplegia. Convulsions are more common in embolism than in hemorrhage. There may be vomiting and transitory delirium. The younger the patient, the stronger the probability of embolism. The recognition of emboli in other organs strengthens the diagnosis. Among the causes of occlusion of the cerebral capillaries are pigment emboli, occurring in malaria, fat emboli, leucocytes, fibrinous formations, lime deposits, and intra-vascular conditions.

Thrombosis may occur in the arteries, veins, or sinuses of the brain. It may arise in conditions of general debility, from cardiac weakness, in blood dyscrasiæ, in vessels narrowed by atheromatous or fibroid disease, or by compression from without. The symptoms are gradual in onset and progressive in course, and vary with the site of obstruction. Following are some of the points of distinction from hemorrhage: Thrombosis is more apt than hemorrhage to occur in extreme old age; considerable degeneration of the arteries of the extremities is likely to be present; the heart is dilated, its action feeble and irregular; in hemorrhage the arterial tension is usually high, and the strongly acting heart is hypertrophied, retinal hemorrhage may also be present; thrombosis is more commonly associated with depression, hemorrhage with excitement; thrombosis is attended with prodromata and there may be local convulsions; should convulsions occur in hemorrhage, they are general; in hemorrhage, the loss of consciousness is more profound and of longer duration than in thrombosis; Jacksonian epilepsy and amaurosis may follow upon vascular occlusion; when death occurs it is not apt to be so sudden as in hemorrhage, while recovery may be complete. The clinical results, however, of softening and of hemorrhage may be identical.

Obstruction of certain vessels of the brain gives rise to special symptoms. Thus in thrombosis of the longitudinal sinus the face is apt to be cyanotic, from distention of the facial veins, or there may be epistaxis. In thrombosis of the transverse sinus, there may be edema of the structures about the external ear and mastoid process. Obstruction of the cavernous sinus may give rise to hyperemia of the optic disc, to edema of the eyelids and injection of the conjunctivæ, and to paralysis of the third, the fourth, the ophthalmic branch of the fifth, and the sixth nerves. Thrombosis of the basilar artery occasions symptoms resembling those due to tumor of the pons Varolii: epileptiform convulsions, optic neuritis, high temperature, crossed paralysis.

Finally, let us make brief reference to some manifestations peculiar to hemorrhage in certain locations.

Hemorrhages into the corpus striatum, into the lenticular or the caudate nucleus are attended with motor paralysis of the face and body on the side opposite to that on which the extravasation occurs, without any alterations of sensation.

Hemorrhages into the optic thalamus occasion no motor manifestations. Lesions in certain specified

regions cause decided and permanent anesthesia, with elevation of temperature upon the opposite side of the body.

Hemorrhages into the cortex set in with convulsions. These, with the attendant sequelæ, are focal in character. Extravasations into the anterior lobe may be attended with loss of the sense of smell upon the same side.

Hemorrhages into the crus cerebri are likely to be associated with paralysis and anesthesia of the limbs on the opposite side of the body and paralysis of the third nerve on the same side as that on which the lesion occurs. The crura, however, are rarely affected alone, and the symptoms will be merged with those resulting from involvement of other parts.

There is much similarity between the symptoms of hemorrhage into the pons and those of hemorrhage into the medulla. In both the temperature soon rises unusually high, the coma is profound, and death is commonly rapid. In hemorrhages involving the pons, initial convulsions are frequent and are usually general, though sometimes affecting only the legs. Often there is anesthesia. The pupils are markedly contracted and immobile. Vomiting is frequent and there is marked disturbance of the respiration. There is paralysis of the extremities on one side and of the face upon the same or opposite side, or upon both sides.

In hemorrhages into the medulla there may be diabetes, insipidus or mellitus, and paralysis of the tongue.

Convulsions are also present in hemorrhages into the ventricles. They may be exclusively tonic, or tonic and clonic. There is deep coma, soon followed by death. Such hemorrhages are common in the extremely young and extremely old.

The corpora quadrigemina are never alone involved in hemorrhage. Such symptoms as amaurosis, immobility of pupil, muscular tremblings, and convulsions might be present in case of their involvement.

In hemorrhage into the cerebellum there is often no initial paralysis. Sometimes there is hemiplegia on the side of the lesion. The absence of paralysis, however, is of more significance than its presence. Loss of consciousness may have been but temporary. Vomiting is frequent and persistent. There is incoordination of muscular movement and there may be compelled movements. Amblyopia, amaurosis, and mydriasis may be present.

In the preparation of this paper the works of Nothnagel, Fagge, Strümpell, Gowers, and Da Costa have been freely drawn upon.

THE TREATMENT OF ABSCESSES OF POTT'S DISEASE.[1]

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THE proper treatment of the various complications of any disease is a matter of fully as great importance as the treatment of the disease itself, and while opinions vary but little as to how to treat Pott's disease, such is not the case with respect to the abscesses that are such a frequent complication. Some recommend that every abscess be let alone, others that every abscess be opened. To follow blindly either extreme is certainly not good surgery, and with an endeavor to throw some little light upon the subject, I have studied during the past summer the histories of 380 consecutive cases of Pott's disease seen at the Hospital for the Ruptured and Crippled, New York, and in the private practice of Dr. Gibney and myself. In speaking of the cases no distinction is made between hospital cases and those in private practice, as the conditions varied so little. I have purposely omitted complicated cases, as of Pott's disease with hip, or knee, or ankle lesions.

Of the 380 cases, 75 were complicated by abscesses, and as the cases represented all stages of the disease, from the incipient case in which a positive diagnosis was scarcely possible to those that were convalescent and cured, we may say that about one case in five at some time during the disease develops an abscess. These figures vary somewhat from those given by Mohr, quoted by Bradford and Lovett, according to which, in 61 autopsies, there were 30 with abscesses, and in life, of 72 cases, 9 with abscesses. The abscesses were found connected with disease in the cervical region in 8 per cent. of the cases, in the dorsal region in 20 per cent., and in the lumbar region in 72 per cent. of the cases, which figures very closely correspond with those given by Michael and Parker.

We see by the foregoing that the problem most frequently presented to us is the treatment of abscesses connected with the lumbar region, and fully two-thirds of these are either in the pelvis above Poupart's ligament, or pass below the ligament and point in the thigh through Scarpa's triangle—the psoas abscesses.

Of late years the study of bacteriology has largely increased our knowledge of diseased processes, and shown that true inflammation is always caused by the presence of one or more kinds of pathogenic microbes. In other words, in acute abscess we find

[1] Read at the meeting of the American Orthopedic Association held in Washington, September, 1891.

pus-microbes; in a cold abscess, however, such is not the case, and I will quote briefly from Senn, *Principles of Surgery*, page 450. Speaking of tuberculous abscesses, he says: "The effect of the bacillus of tuberculosis on the tissue is to produce a chronic inflammation, which invariably results in the production of granulation-tissue. The embryonic cells furnish, as it were, a wall of protection for the surrounding healthy tissue. The characteristic pathological feature of every tuberculous product consists in the tendency of the cells of which it is composed to undergo early degenerative changes, which are caused by local anemia and the specific chemical action of the ptomaïnes of the tubercle-bacilli, and consists in coagulation-necrosis, caseation, and liquefaction of the cheesy material into an emulsion, which has always been regarded as pus, until recent investigations have shown that it is simply the product of retrograde tissue-metamorphosis, and not true pus. I believe that it can now be considered as a settled fact that the bacillus of tuberculosis is not a pyogenic microbe, and that in the absence of other microbes it produces a specific form of inflammation which invariably terminates in the production of granulation tissue, and that when true suppuration takes place in the tuberculous product it occurs in consequence of secondary infection with pus-microbes."

Accepting the pathology as given, the treatment of the abscesses of Pott's disease seems to me more simple than some would have us believe. If the abscesses could be opened, thoroughly cleansed, all tuberculous material removed, any bone-detritus washed away, with no infection of the external tissues, and with perfect asepsis, then those who advocate opening every abscess would clearly have established their point; on the other hand, could it be shown that no trouble followed from extreme conservatism, then there would be no necessity for operative procedures. But whilst some cases do well, and the abscess seems in no way to influence the final result, others do badly, and the abscess is undoubtedly the cause of the patient's death. The explanation of these various conditions seems to me to be largely due to the question of infection by the pus microbes. As long as the tuberculous or cold abscess remains purely such, but little inconvenience may result to the patient and the symptoms are insignificant; but let a mixed or a secondary infection occur, and all is changed; a condition of sepsis is added to one of tuberculosis. If the abscess has never been opened, it is noticed that the child is doing poorly, septic symptoms appear, the temperature is characteristic or at least suggestive, more severe symptoms may follow, and, if nothing is done, death ensues; but let such a case be treated scientifically: remove or do away with the source of infection, secure proper drainage, and improvement will at once be noted. The secondary infection may not occur until some time after the abscess has been opened, or it may occur at the time of opening, and it is the danger and the great frequency of this occurrence that deters us from opening these cold abscesses. We know that despite all possible precautions, and with every endeavor to be strictly and surgically aseptic, the cases become infected, and may die as a result of this infection. If the septic trouble be mild in character it is usually recovered from, but we must remember that the patient is already suffering from tuberculosis, and the conditions are not as favorable as they would otherwise be.

Caseation and absorption of the liquid contents of the abscess are a more frequent result, I believe, than is generally supposed, and this may often be aided by means of aspiration, which, of course, is done with every antiseptic precaution. The operation is often very disappointing, owing to the fact that the needle soon becomes clogged and the abscess is but very imperfectly evacuated. This difficulty can be partly overcome by using a large-sized needle, through which, if the suction-force is good, large pieces of cheesy material may be removed; and a simple expedient that I have found of value when such clogging does occur is to force through your aspiratory needle a small amount of a weak carbolic solution, thus washing back into the cavity the obstructing plug, then, changing the position of the needle, to begin aspirating again. Introduce the needle at some little distance from the abscess, so that considerable tissue intervenes between the opening and the external air. It is advisable to make the openings also at dependent points, so that if the abscess should eventually open along the track of the needle the drainage will be of the best. If possible, after the evacuation of the abscess, whether or not any fluids, such as iodoform and glycerin, or hydrogen peroxide, etc., have been injected, make pressure either by a pad and bandage, or by straps of adhesive plaster. This prevents hemorrhage from the sac-walls, and promotes absorption. Very little has been done with the injection of fluids into the abscess-cavity after evacuation in the cases here analyzed, as the results by the other method were so good. The iodoform-emulsions suggested by Bruns and Krause, seem, however, worthy of trial.

In all cases, no matter at what stage of the disease, efficient protection should be given the spine, either by plaster, paper, wooden or wire jackets, or corsets, or by some of the numerous forms of braces. This protection, combined with proper general care of the patient, will in many cases cause a disappearance of the abscess, and all that remains is a small nodule,

without fluctuation, and causing no symptoms. If the abscess is increasing rapidly in size, or is producing pressure-symptoms, aspirate, and this should be continued at intervals if the patient is doing well. If the patient is doing poorly, and symptoms indicate that this is due to the abscess, endeavor to remove the cause; open, clean out thoroughly, scrape the abscess-cavity, and, if possible, the sinus leading to the diseased bone, and also the diseased bone itself. Secure good drainage, and keep your wound aseptic, if possible. Of the many cases of abscess in the pelvis but few can be properly drained by one opening, and I believe it best to open through and through so that, standing or lying down, the drainage is always good.

Whether the cheesy mass left behind after non-operative treatment or after aspiration may cause future trouble, is a matter that is not clearly established, although we might reasonably suppose that in some cases it does.

There are also a certain number of cases in which aspiration or incision might be indicated to prevent the abscess bursting into some viscus, but none have occurred among those analyzed in this paper. The most frequent indications for opening the abscess in non-infected cases that are doing well are that they interfere with the proper application of a brace or, by their size, are impediments to locomotion. The psoas abscesses, if accompanied by much contraction of psoas and iliacus muscles, cause marked lameness, which disappears when the abscess is removed. Another reason for aspiration or incision is that, by burrowing, the abscess may enter another joint and cause further trouble.

ANALYSIS OF 75 CASES OF ABSCESSES OF POTT'S DISEASE.

No treatment but brace;	abscess disappeared	3
" " "	abscess *in statu quo*	8
" " "	abscess increasing, child doing well	8
" " "	child not doing well	2
		21
Aspirations.		
Abscess disappeared		11
Abscess opened spontaneously after aspiration failed		3
Abscess incised after aspiration failed		4
Abscess *in statu quo* after aspiration failed		1
		19
No. of aspirations in each case from 2 to 6, average 3		
Incisions—Scraping Sac.		
With use of iodoform-emulsion or peroxide of hydrogen		14
Results—Good		11
Bad		3
Infected at time of operation or at subsequent dressings		11
Not infected		3
Opened Spontaneously.		
Results—Good		15
Bad		6
		21
		75
Deaths.		
Tuberculous meningitis		2
Amyloid liver		2
Suppression of urine		1
		5

A study of the preceding analysis will show us that the cases that have been treated on the expectant plan and by aspiration have done remarkably well, and we believe this plan should be followed whenever possible. The two deaths from meningitis occurred in cases that had been aspirated, the two from amyloid liver in cases that had opened spontaneously, and the death from suppression of urine occurred in a child thirty-six hours after opening a psoas abscess in front and behind and inserting a drainage-tube. These results are immediate rather than final, and it must be clearly understood that they do not represent the true death-rate of Pott's disease complicated by abscesses. The death-rate after incision is also larger in adults than in children.

THE FUNDAMENTAL PRINCIPLES OF ANATOMICAL NOMENCLATURE.[1]

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THE late honored President of the Association of American Anatomists,[2] in the preface to the second edition of his treatise on *Human Anatomy*, published less than three years ago, wrote as follows:

"As a rule, one name for an organ or part is used, and that one selected which is simplest and most expressive of its character.

"The name also, so far as may be permitted, is rendered into English.

"Many phrases in common use as names have been curtailed of what have appeared unnecessary portions, and sometimes the adjective portion of the phrase has been retained in preference to the substantive portion, where, for various reasons, it has seemed more appropriate.

"Where names of persons are applied to parts, they are generally avoided, and others, in all respects better adapted to the purpose, are used.

"A radical change would confuse, rather than facilitate, the study of anatomy."

It is not easy to determine what quality of this announcement is most impressive: the brevity and simplicity with which a complex subject is stated; the judicial and impersonal attitude respecting what too easily lends itself to controversy; the moral courage displayed by one naturally conservative and no longer young in adopting certain new "tools of thought"

[1] Read at the meeting of the Association of American Anatomists, held in Washington, September, 1891.

[2] Professor Joseph Leidy, M.D., LL.D.

in place of some that he had used and taught others to use for more than a quarter of a century; or, finally, the practical wisdom that led him to deprecate, as both needless and harmful, any sweeping re-designation of anatomical parts.

The following selections from the names used by Dr. Leidy for parts of the brain may illustrate the nature and extent of the modifications sanctioned by him, and serve as the basis for a brief further consideration of the more important principles involved:

Callosum for "corpus callosum," or "trabs cerebri."

Central fissure for "fissure of Rolando."

Chiasm for "chiasma opticum," or "chiasma nervorum opticorum."

Dura for "dura mater."

Fimbria for "corpus fimbriatum," or "tænia hippocampi."

Hippocampus for "hippocampus major," or "cornu Ammonis."

Oblongata for "medulla oblongata."

Pons for "pons Varolii."

Thalamus for "thalamus opticus," or "thalamus nervorum opticorum."

The parts designated are among those most frequently mentioned in discussing the anatomy of the brain; with them, therefore, is there most need of terminological simplification.

In one sense they are new names, but in another and more important sense they are merely familiar terms in a more convenient form.

Most of them are sufficiently appropriate etymologically, *e. g.*, *chiasm*, *fimbria*, *pons*. Some may not be superior in themselves, but are so linked with the accepted names of other parts as to have an indirect claim to perpetuity; from *hippocampus* was named the hippocampal fissure; the physiologically-interesting paracentral lobule was so called from its topographical relation to the central fissure; the great cerebral commissure might be more fitly indicated by *trabs*, a beam, than by *callosum*; but the latter word is, as it were, embalmed in *callosal* and its several compounds.

The words are euphonious, easily pronounced, and of moderate length—none over four syllables; as mere verbal forms, therefore, they are acceptable.

The words are all Latin in form, or at least in immediate derivation. Hence no national jealousies can arise, and hence, also, the name may be adopted into any modern language by the well-established methods that have been enumerated in some detail by the writer.[1]

[1] "Paronymy *versus* Heteronymy as Neuronymic Principles," Journal of Nervous and Mental Diseases, xii, 1885; "Anatomical Terminology," Reference Handbook of the Medical Sciences, viii, 1889.

For example, the Latin *fissura* becomes *fessura* in Italian, *fissure* in English and French (the two distinguished by pronunciation, though not in spelling), and *Fissur* in German. Each of these is a paronym of the original Latin, and from each may be formed the appropriate adjective.

From the substantives adjectives are regularly derived; *fimbrial*, *hippocampal*, and *thalamic* are beyond question; there may be room for choice between *chiasmal* and *chiasmatic*, according as one is governed by practical or classical considerations; the adjective from pons is certainly *pontile*, rather than *pontal* or *pontine*.

Callosum, *dura*, *pia*, and *oblongata* are already Latin adjectives, but that is no obstacle to the formation of secondary adjectives from them. *Callosal*, indeed, is one of the commonest of encephalic terms; *dural* and *pial* are not infrequent, and *oblongatal* has been employed.[1]

With the exception of *central fissure*, all are mononyms, or single-word terms; there is but one compound, *hippocampus*, and there are no pseudo-mononyms, verbal tandems, so to speak, such as the Germans produce by stringing together an indefinite number of single words.

The two-word term, or dionym, *central fissure*, is an example of a large number of names of parts that constitute natural groups or series. The atlas and axis have special names, but most of the vertebræ, like the ribs, are merely numbered; among the arteries, the aorta only has a mononym; among the gyri or convolutions, the cuneus, precuneus, and operculum are so distinguished; all the fissures have double names, comparable with the generic and specific names of animals and plants.

But, as with *central fissure*, the distinctive part of the name is often a single word, a mononymic adjective, and most of the other fissures and gyri may be so provided by simple verbal combinations.[2]

It will be noted that, among the terms selected from Dr. Leidy's work, only two are distinctly English rather than Latin in form, viz., *chiasm* and *central fissure*; these are the Anglo-paronyms of

[1] In the descriptions of the structure and functions of the two kinds of nervous tissue given in the larger treatises on Physiology, *e. g.*, that of Foster, how much space would be saved and how much wearisome repetition avoided were *alba* and *cinerea* to replace *white matter* and *gray matter*, and *albal* and *dural* the phrases commonly employed.

[2] In 1885 (*New York Medical Journal*, November 25th), the writer proposed that the commonly-accepted names for the encephalic arteries should be mononymized by replacing adjectives indicative of relative position by prefixes having the same signification; thus, *posterior cerebral* became *postcerebral*, etc. In his article, "Vessels of the Brain," in the Reference Handbook of the Medical Sciences, viii, Dr. William Browning has not only adopted these simplified names, but has applied the system to the veins and sinuses of the brain.

chiasma and *fissura centralis;* the others, as *spelled*, are either Latin or English. If intended to be regarded as Latin, then in an English page they should be italicized; but as English words they would be pronounced as such and be regarded as unchanged paronyms.

The change of Latin words by paronymy is what Dr. Leidy meant when he said that the names are "rendered into English." But there is another mode of rendering, namely, by translating into the vernacular; this would have given *bed* for *thalamus*, *bridge* for *pons*, *hard mass* for *callosum*, and *middle cleft* for *fissura centralis*. These heteronyms may be more or less acceptable as mere words, but they do not readily submit to the formation of adjectives; they rarely suggest the Latin equivalent, and are apt to be wholly unlike the corresponding vernacular terms in other languages. Heteronyms are incongruous and dissociating; paronyms are homogeneous and constitute substantial steps toward the realization of a universal scientific language.

Dr. Leidy's use of *fimbria* in place of *corpus fimbriatum* demands special comment, because it represents a group of cases in which the reduction of the polyonym to the mononym involves two distinct stages: first, the dropping of the superfluous *corpus*, leaving the neuter adjective to be used substantively, like *callosum*, *caudatum*, etc; secondly, the abandonment of the adjective in favor of the noun, *fimbria*, from which it was derived; this not only gives a shorter word, but warrants the shorter adjective, *fimbrial*. The principle is a well-established form of metaphor; it is as if a man with a lion-like head were called first *homo leontiformis*, then *leontiformis*, and finally simply *leo*, the context preventing confusion of meaning. Similarly there is no reason why *corpus lenticulare* should not become successively *lenticulare* and *lenticula; corpus restiforme*, *restiforme*, and then *restis*.

It will be remembered that Dr. Leidy's method of reducing polyonyms to mononyms was, to use his own language, by omitting superfluous words; the numerous terms beginning with *corpus* were thus lightened, literally disembodied, leaving only the spirit, the essential part. But he was not apparently prepared to convert into mononyms the very considerable number of polyonyms containing adjectives indicative of relative position, by replacing the adjectives with prefixes having the same meaning. Yet the general use of analogous compounds, for example, *prefrontal* and *postfrontal* for *anterior* and *posterior frontal*, and of *preëncephalon* and *mesencephalon* for *anterior* and *middle-brain segment*, encourages the belief that in time, when the advantages of mononyms are more generally and fully recognized, there will be adopted not only Owen's *precava* and *postcava* in place of the ponderous *vena cava anterior* and *posterior*, or *ascending* and *descending vena cava*, but also many analogous names of groups of associated parts, *e. g.*, *precommissure*, *postcommissure*, *medicommissure; precornu*, *postcornu*, and *medicornu*. As Latin mononyms, all these and similar terms, while retaining the full and unmistakable significance of the original polyonyms—*commissura posterior*, etc., would gain the capacity for adjective inflection and for transportation into all modern languages without material change of form.

In brief, while honoring our anatomical predecessors by carefully regarding the terms they have transmitted to us, we should, with him who has so recently left us, bear in mind that the advancement and dissemination of our chosen science demands a simplification of its language, and we should accomplish this end, so far as practicable, by *the selection or formation of Latin mononyms, from which each nation may form the appropriate paronyms.*

Whatever principles or set of names we may adopt, there is a point of *practice*, respecting which the precept and example of Dr. Leidy are surely worthy of universal acceptance and imitation, viz., to use *only one name for an organ or part*, all others being synonyms. Even the accomplished anatomist is apt to be delayed by encountering two, three, or more names for one and the same part in different passages of the same book or article, while to the beginner it is simply bewildering. As long ago as 1885 Dr. Leidy had prepared lists of the names he thought of using in the new edition of his *Anatomy*, and the changes in detail did not prevent the maintenance of a terminological consistency which was nearly without precedent.

CLINICAL MEMORANDA.

REPORT OF A CASE OF ECTOPIC PREGNANCY.[1]

BY HENRY D. INGRAHAM, M.D.,
PROFESSOR OF GYNECOLOGY, MEDICAL DEPARTMENT NIAGARA UNIVERSITY; GYNECOLOGIST TO THE BUFFALO HOSPITAL OF THE SISTERS OF CHARITY.

MRS. A. E. P., twenty-four years old on November 5, 1890, was born in the State of New York. She menstruated first at the age of fifteen; was always regular, but suffered from dysmenorrhea until after the birth of her first child. She was married at the age of seventeen and a half years; has three children, the oldest five, the second nineteen months younger, and the youngest was one year old last December. She has had no miscarriages. Menstruation appeared regularly two months after the birth of the first child, but it was two years after the birth of the second child before its reappearance. The third child was one year old on the 16th of last December, and menstruation occurred for the first time on the 28th of that month, lasting three days, but being more pro-

[1] Read at the meeting of the Central New York Medical Association, held at Buffalo, N. Y., June 2, 1891.

fuse than normal. It appeared again on January 28th, the flow being normal. On February 28th she had a slight discharge which she thought was menstrual. While carrying the last child, after about the fourth or fifth month she had pain in the left iliac region, which was worse after the birth of the child, varying in intensity, but never entirely absent. About the 18th of last February she had the "grippe," the pains extending all over her body, but being more severe in the left side. She kept in bed for a week, after which she felt quite well, the pain in the left iliac region having nearly disappeared. Other than as already mentioned the patient never had any illness. Early in the morning of March 1st she walked one mile to assist at a confinement, being in her usual health. About 3.30 P.M. she was suddenly seized with severe pain in the left side, and fell to the floor, losing consciousness for a short time. When she recovered consciousness she felt very weak and faint, and suffered from severe pains in the abdomen, especially in the left iliac region. She described the pain in the abdomen as "terrible cramps." About an hour later she felt as though her bowels would move, and, when placed on the vessel, there was a slight movement. She fainted again, but soon rallied after being placed in bed. The desire to go to stool still remained, and vomiting occurred several times.

Dr. H. C. Buswell saw the patient one and a half hours after the attack, and found her as described, with a a very rapid, feeble pulse, and unable to raise her head. She was in a state of almost complete collapse. Dr. Buswell raised the foot of the bed, and used other restorative remedies. Vaginal examination revealed a soft, boggy mass, very tender to the touch, at the left and posterior to the uterus. There was also a slightly bloody discharge from the uterus. The diagnosis made by Dr. Buswell was ectopic pregnancy with rupture of the tube. In addition to what had already been done, morphine was administered to relieve the pain, and instructions were given to keep the patient quiet, and under no circumstances to allow her to raise her head.

The next morning she had rallied considerably, and was better in every respect. The same treatment was continued until the fourth day, when I saw the patient for the first time. I found the pulse 110, which was less frequent than it had been; the temperature was 100°. The pain and tenderness were so great that a thorough examination could not be made, yet the boggy mass at the left and posterior to the uterus could be felt. The uterus was two and three-fourths inches in depth.

I confirmed Dr. Buswell's diagnosis, and advised operation; but the husband being away, the patient wished to wait until his return. As she was improving, although slowly, and as the surroundings were the very worst, it was thought advisable to wait, carefully watching the patient, hoping that she might improve sufficiently to be moved to the hospital. She was kept quiet in bed; for two weeks her temperature was from 100° to 101°, the pulse from 100 to 110; abdominal tenderness was pronounced. At the end of two weeks the temperature was normal or nearly so most of the time, the pulse but little accelerated, yet the abdominal tenderness was quite marked, especially on the left side, and the patient was unable to sit up.

A week later, four weeks after the attack, she was removed to her mother's house, a distance of half a mile. After that she did not feel quite so well, with increased pain and febrile disturbance. For the next few days she was sometimes better, sometimes worse, the abdominal pain and tenderness, especially on the left side, being very pronounced; the pulse was rather frequent, from 85 to 90, but the temperature was nearly normal, though at times slightly raised. About April 7th she felt worse, and began to realize the force of what had been told her, that she could not get well without an operation, and on April 9th she was taken to the Buffalo Hospital of the Sisters of Charity. Up to the time of removal to the hospital I saw the patient only twice, the first time four days after rupture occurred and the next time three or four days later. The facts for the greater part of the foregoing history were furnished by Dr. Buswell, who, in addition to what I had already told the patient, explained the nature of the difficulty to her and urged the operation. But for several reasons, the principal being the absence from home of her husband, consent was not obtained until her removal to the hospital, more than five weeks after the occurrence of the rupture. After her arrival at the hospital she felt better than at any time since the rupture occurred. She was able to sit up and walk about her room and the corridors. Her appetite was good, there was no fever, and the secretions were normal, yet the left iliac region continued very sore and tender.

On April 13th, assisted by Drs. Buswell, Bentler, Colton, and Dowd, I opened the abdominal cavity and found on the left side nearly two quarts of débris, mostly clotted blood, which had the appearance of being about to suppurate. The tube of this side was ruptured in the outer half, the rent being quite large. The tube was ligated close to the uterus, and carefully removed, as was also the blood; some of this, however, was so firmly adherent to the intestines that many little particles were allowed to remain, as it was thought that their presence would produce less disturbance than would their removal. The right ovary was cystic, of the size of a hen's egg, the walls of the cyst being very thin and transparent, the fluid thin and colorless. This cyst ruptured during its removal. The abdominal cavity was carefully cleansed by sponging, but was not washed out, nor was drainage used. Reaction occurred promptly, and the patient did well, except that vomiting was very persistent, and continued fifty hours. She was carefully prepared for the operation, and, except several remedies that are supposed to control vomiting, nothing was afterward given but an occasional swallow of hot water, and later a little beef-tea, until vomiting stopped. In this case, if any medicine controlled the vomiting, it was coca wine. I think, however, that time did as much as, if not more than, all the remedies employed to relieve the vomiting.

The second day at midnight the temperature was 101°, the highest at any time, and the pulse 100. The third day at six o'clock in the evening the temperature was 100°, and the pulse 90. After that both temperature and pulse were nearly normal. The bowels moved on the third day, and every second day afterward. Convalescence was uninterrupted, and three weeks after the operation the patient left the hospital, saying that she felt better than she had in a long time. At this writing, five months after the operation, she feels better than at any time during the past two or three years.

I should state that in this case the fetus was not found, but the placenta was recognized. This is the sixth case that I have seen; five of them were operated on and recovered, and the other died before an operation could be performed.

Some of the points to which especial attention is called are these: This patient had not been sterile for any length of time, neither had she shown "a previous inaptitude for conception." There were none of the usual signs of pregnancy present, the patient not having the least idea that she was in that condition.

The feeling as though the bowels would move, which was present in this case, is said to be characteristic of rupture into the broad ligament of the left side.

Notwithstanding that the whole of both tubes and ovaries were removed, the patient continued to menstruate as regularly as ever and more profusely.

The point of especial interest is the fact that, although the rupture was intra-peritoneal, the patient did not lose her life from hemorrhage. Absorption of the blood and placenta did not take place, and to leave so large a quantity of foreign matter in the abdominal cavity any length of time is no doubt extremely dangerous. It is very fortunate that the only unfavorable consequence was the peritonitis from which the patient suffered.

The only case similar to this of which I have any knowledge is reported by Mr. Tait, in his *Diseases of Women and Abdominal Surgery*, p. 486.

PROLONGED SUBNORMAL TEMPERATURE FOLLOWING THE ADMINISTRATION OF ANTIFEBRIN.

BY F. HORTON, M.D.,
OF NEWCASTLE, WYOMING.

THE great length of time during which the temperature remained subnormal in this case, its sudden rise again, and the small number of similar cases in the literature of the subject afford, I think, sufficient excuse for this report:

On October 4, 1891, I was called to see E. L. R., a railroad laborer, twenty-two years of age. I learned that he had been confined to bed for about two weeks.

He presented the symptoms of a well-marked case of typhoid fever: the bowels were very loose; there was tenderness in the right iliac region; rose-colored spots were present; the appearance of the tongue was characteristic, etc. The pulse was 110; the temperature of the mouth was 104°. The patient's surroundings were most unhygienic. He was lying in a one-windowed room, occupied by at least a dozen men as a sleeping-apartment—the beds and room were dirty.

I prescribed two-grain doses of sulphate of quinine, combined with three grains of salol, in capsule—one to be taken every three hours. Bismuth was also given to check the bowels, and I ordered cold sponge-baths, although it was impossible for the baths to be properly given. On this treatment his condition improved, and on the next day his temperature had fallen to 101° in the morning and 102° in the evening.

From this time on until October 13th the case ran a typical course, the temperature ranging from 101° to 102.5°. On the 13th, his temperature ran up to 103°, and the following day to 104°. Being unable to have the baths properly given, I decided to give antifebrin to lower the temperature. I accordingly prescribed antifebrin grs. iv, camphor pulv. gr. ¾, in capsule—a combination I have often used.

He received a capsule at 10 A.M. on the 14th, another at 3 P.M. I saw him at 6 P.M. and found the temperature 97°, the pulse 90. I ordered the antifebrin discontinued. I saw him at 10 A.M. on the 15th, and found the temperature 95°, the pulse 84; I discontinued all treatment, and gave spiritus frumenti ℥ ij every hour; hot-water bottles were put to the patient's feet under cover, etc. At this time the extremities were cool, but there was no cyanosis. In the evening his condition remained unchanged. On the 16th the morning temperature was 94.6°, the pulse 80. I saw him at 7 P.M., and the temperature had suddenly jumped up to 104°. I then gave the antifebrin in divided doses—*i. e.*, 2 grains every four hours. On the 17th the temperature was 101°, and on the following day normal. From this time on the man made an uninterrupted recovery.

The most remarkable features of the case to me were: the very low temperature, continuing so long after the drug had been withdrawn—nearly forty-eight hours; the suddenness of the rise from 94.6° at 10 A.M. to 104° at 6 P.M.; its sudden decline again, with no apparent evil result. During the time the temperature was below normal the man did not complain of feeling uncomfortable, but maintained that he felt better than he had for some days, although he would feel chilly if the covers were at all removed.

The temperature was taken under the tongue, and at first I doubted the correctness of my thermometer; but, after procuring another and testing my own, I was forced to the conclusion that the instrument was not at fault.

The case was also seen by my friend, Dr. B. B. Kelly, on the morning of the 16th, and the temperature taken by him was found to correspond with my own record. He gave an unfavorable prognosis. I was somewhat alarmed at first when the temperature dropped below normal, fearing intestinal perforation. But, as no further symptoms of this complication occurred, I was inclined to attribute the depression of temperature to the antifebrin alone, given in the weakened condition of the patient.

AN INSTANCE OF CURIOUSLY MIXED EXANTHEM—MOST LIKELY SCARLATINIFORM.

BY J. MADISON TAYLOR, M.D.,
OF PHILADELPHIA.

THIS case, from an old note-book, seems worthy of a hearing.

A robust boy of nine years had, on the morning before I saw him (November 10th), been apparently in perfect health. At mid-day he came home from school complaining of having "caught cold," and feeling a slight soreness of throat. At night the mother—a very intelligent, observing woman—noted a bright rash extending over almost the entire surface of the body. On the 11th this rash was uniformly distributed over the entire surface—a vivid, dusky red. The skin felt hot, stinging, and much roughened by plainly visible papules. These papules were especially prominent upon the forehead, about the ears and the edges of their conchas, and on the neck. The pharynx was irregularly punctate and dusky.

On each of the tonsils was a dirty-yellow ulcer, just about the size and shape of a small watermelon-seed. The tongue was perfectly clean and moist, remaining so throughout the attack. The conjunctivæ were clear and free from injection. The bowels were said to act regularly and sufficiently. The urine for a day or so had been less than normal and of higher color, though voided with increased frequency.

Now, this boy had thrice before had measles, through two attacks of which I had myself guided him. He was a robust little chap of excellent Alsatian ancestry. Scarlatina he had not had. There were symptoms of an acute coryza, with slight cough. The fever was quite active (I do not recall the figures); there was also a full, bounding pulse, but undisturbed breathing. Next day the lad seemed very well, had slept well, called lustily for stouter food, and emphatically proposed going out to play. The fever had lessened markedly, the urine had increased and become of better color. The throat was almost well. Each of the papules already noted had become a tiny vesicle, and the dusky blush, though still uniform, was of a paler tint, with purplish tones. The eyes now seemed injected, and distinct complaint was made of sensitiveness to light.

The next day but one I saw the lad again. The fever had quite gone, the cough was more pronouncedly bronchitic, the eyes were no longer red, the throat was quite healed. Another day passed without my seeing the patient, and on the 16th, lo! the whole surface of the body was now fully desquamating in huge plates. Certain fingers threw off complete glove-like casts. There remained only this and a slight cough, so the family (prudent folk!) announced that my attendance was no longer needed. I saw the boy only once more, some days later, still confined to his room. There was but a patch here and there of half-detached scales on the abdomen, the toes and fingers being immaculately clean. I suspiciously searched the urine for albumin, but found none.

Undoubtedly scarlatina often shows itself as a papular eruption. It rarely exhibits the nasal and conjunctival catarrh so characteristic of measles. But the most curious feature of this case was the punctation of the pharynx—one of the most important premonitory signs of rubeola, the clean tongue, and the very early and complete desquamation.

INFLUENZA FOLLOWED BY PYEMIA.

BY WM. S. BARKER, M.D.,
FORMERLY ASSISTANT PHYSICIAN AT THE ST. LOUIS CITY HOSPITAL, ST. LOUIS, MO.

G. T., nineteen years of age, a laborer, entered the St. Louis City Hospital November 27, 1890. He had had a chill six days before, with pain in his throat and some coryza. With the persistence of the throat pain a general feeling of feverishness had prevailed. When he entered the hospital a huskiness of voice amounting almost to complete aphonia was marked, and slight delirium existed. The temperature was 104°, but was easily reduced by the ordinary antipyretics. There was a slight trace of albumin in the urine.

On laryngoscopic examination intense redness of the posterior wall of the pharynx extending to the adjacent parts of the larynx was detected. There was but little edema of the mucous membranes, and nothing like a diphtheritic exudation could be found in the upper air-passages. The patient complained of general muscular pains and fatigue, quite common in one type of influenza. No visceral lesions could be found. The case seemed to be one of severe influenza, which was somewhat epidemic at the time. The violence of the attack was first concentrated upon the mucous membrane of the pharynx and larynx, but the peculiarity of the case lay in the pyemic involvement of other and distant parts that very soon occurred. The patient's pharynx, mouth, and nasal passages were frequently syringed with hydrogen peroxide, followed by the use of a modified Dobell's solution.

On November 28th, a rather large, flat bleb was first noticed on the palm of the right hand. The contents of this blister seemed at first to be serum, not pronouncedly purulent, though it rapidly became so, and incision two days later evacuated considerable purulent matter. Other similar lesions were soon noticed in various parts, principally on the back and sides of the neck and on the buttocks. These were about the size of a split pea, and usually somewhat enlarged as they became purulent. The severe throat-affection had now moderated and the voice was partially restored. Frequent incisions were made into the lesions described, and when considerable pus could be thus removed the patient's condition seemed slightly improved. The case thus became largely a surgical one. After the incisions general antiseptic measures were employed. It became necessary to make almost daily incisions, as new lesions were constantly making their appearance. An abscess (evidently metastatic) of some depth formed in the left popliteal space. For a week or two in January the patient seemed to hold his own. His condition, however, week by week, became steadily more aggravated. A little later obstinate diarrhea set in—emaciation advanced rapidly, and death took place on January 30th.

The contents of the pustules, examined before death, were characterized by the presence of large numbers of streptococci and staphylococci. The case seemed plainly one of pyemia following influenza.

BISMUTH SUBNITRATE AS A DRESSING FOR THE UMBILICAL CORD.

BY GEORGE A. STUART, M.D.,
OF WAHU, CHINA.

FOR several years I have used bismuth subnitrate as a dressing for the umbilical cord in the newborn. The method of application is as follows: Cut a piece of lint sufficiently large to fold over and prevent the bismuth from being dispersed. Through this a hole is made small enough to fit tightly about the cord and prevent dispersion at that point. The abdomen about the cord is dusted with the bismuth, the cord is passed through the hole in the lint, and the lint pushed well down upon the abdomen. Bismuth enough to completely bury the cord is applied, the lint is folded over smoothly, and the binder applied. The advantages I claim for this mode over all others are the following:

1. Convenience. It has to be applied only once, as

the cord immediately dries up, and does not need to be disturbed until it has dropped off.

2. Cleanliness. There is absolutely no odor, and the addition, at the time of the bath, of a little bismuth to places showing evidences of moisture will keep everything dry and sweet.

3. Safety. Mothers and nurses are not meddling with the dressing, since everything goes on so satisfactorily. There is left no sloughing, discharging stump to corrode the surrounding tissues and bring on hemorrhage or predispose to hernia.

4. The cord drops off sooner than by any other method. For small cords, three days; for large ones, five—rarely exceeding six—constitute the usual time.

5. A better and firmer cicatrix is left than by any other method known to me.

Since I have been using the bismuth dressing I have had no accidents, and 100 per cent. of good results. Much depends upon the manner of dressing, and I have therefore somewhat minutely described its application.

MEDICAL PROGRESS.

External Perineal Urethrotomy.—At a meeting of the Tri-State Medical Association of Mississippi, Arkansas, and Texas, ROGERS presented a report of forty-one cases of external perineal urethrotomy performed on account of the presence of foreign bodies in the bladder and urethra, cystitis, enlarged prostate, stricture of the membranous urethra, and traumatic rupture of the urethra. Death took place in five cases. In two it was due to sepsis from preëxisting gangrene; three cases died from exhaustion. In no instance was death, directly or remotely, attributable to the operation. Five operations were performed without a guide. One case remained unimproved. In each of two cases it was necessary to leave a permanent fistula. In one other a small fistula remained, and this promised to close. When the operation was performed for uncomplicated stricture in the membranous urethra neither rigors nor reactionary fever followed, but in several instances in which these symptoms were present they disappeared immediately after the operation. In the after-treatment rigors and fever occasionally occurred at the first introduction of the sound. The chief reliance in the control of rigor and fever was placed upon morphine administered hypodermatically.

In two cases there was quite troublesome hemorrhage, occurring two and a half and seven days respectively after the operation. The bleeding, however, did not in either case come from the perineal structures, but from the bulbous urethra, where in each case urethrotomy had been performed.

In no case did pelvic cellulitis or septic symptoms follow the operation; but on the contrary the operation relieved the cellulitis when it existed, and in several instances prevented the occurrence of septic symptoms.

The Non-specificity of the Streptococcus of Erysipelas.—At a recent meeting of the Hamburg Society of Physicians, FRAENKEL (*Deutsche medicin. Wochenschr.*, No. 44, 1891) reported that from the pus contained in abscesses that had developed in the course of an attack of erysipelas he had been able to cultivate an organism that corresponded to the streptococcus of erysipelas. He had also observed a case in which the development of facial erysipelas was ascribed to infection from a felon, in the pus of which streptococci were found. In a case of extensive facial erysipelas there was also suppuration of the subcutaneous tissues of the greatly swollen eyelids, and of the inter-muscular and intramuscular tissues of the neck. In the pus and in the edematous fluid streptococci were found, microscopically and by culture. These observations were in harmony with the experimental results already obtained by Fraenkel, from which it appeared that the streptococcus, in accordance with the conditions of infection, at one time occasioned lymphangitis or a phlegmon, at another erysipelas or peritonitis. He had succeeded in inducing erysipelas by injections of streptococci pyogenes into the ears of rabbits; and he had also occasioned suppuration and peritonitis by inoculation of erysipelas-cultures. Nor were the results confined to one species of animal. Thus, some white mice failed to react to intraperitoneal injections of cultures, while others died of peritonitis in twenty-four hours.

"Pental," a New Anesthetic.—MERING, the discoverer of amylene hydrate, has succeeded in producing from the amylene radical an anesthetic, to which, from its containing five carbon-atoms, $(CH_3)_2CCHCH_3$, he has given the name pental. In its volatility and inflammability the product resembles ether; it is used in the same manner as is chloroform. In one hundred instances in which pental was employed the average quantity required in each case was three drams, the anesthesia developing in from three to four minutes. The narcosis is not profound, and is only available for minor surgery. As a rule, operations may be performed before consciousness is completely lost. The advantages of pental consist in the absence of immediate or remote unpleasant effects: it does not cause headache or vomiting; it does not disturb the respiration or the action of the heart, and the stage of anesthesia is not preceded by a stage of excitement even in alcoholic subjects. — *Allg. med. C.-Ztg.* (*Münchener medicin. Wochenschr.*, No. 41, 1891, p. 735.)

The Salts of Strontium in Albuminuria.—At a meeting of the French Society of Therapeutics, DUJARDIN-BEAUMETZ (*Le Progrès Médical*, No. 44, 1891, p. 313) reported that by the employment of strontium lactate he had succeeded in reducing one-half the proportion of albumin in the urine in a number of cases of albuminuria. He ascribed the good results to a favorable influence exerted by the medicament upon the digestion. The drug must be pure; ninety grains may be administered in the course of twenty-four hours.

Ectopia Testis.—POLLAK (*Prager medicin. Wochenschr.*, No. 41, 1891) has reported two cases, one in a lad of thirteen years and the other in an infant of three months, in which temporary displacement of one or both testicles was attended with derangement of micturition, and with pain at remote parts of the body. In both cases restoration of the displaced organs was followed by disappearance of the symptoms.

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SATURDAY, DECEMBER 19, 1891.

THE WHISKEY TRUST VERSUS THE LIVE STOCK COMMISSIONERS.

THE Live Stock Commissioners of Illinois have made themselves obnoxious to the Whiskey Trust by their efforts to prevent the sale of diseased cattle intended for the beef market in Chicago. Accordingly, the Trust brought suit against the Commissioners, in Peoria, which has ended in a disagreement of the jury. It would be made to appear that the farmers would suffer great loss and that the cattle-trade would be injured if the Commissioners were allowed to condemn beef cattle suffering from the communicable disease known as actinomycosis, or "lump-jaw." This is the same disease that was recently detected in a number of cattle in the Philadelphia stock-yards, and for which the cattle were condemned, while the dealers were bound over to answer at court for selling diseased meat. This anxious solicitude for the farmers would appear inexplicable were it not for the fact that the Whiskey Trust owns great sheds connected with its distilleries, where cattle are fattened on distillery waste for the beef market.

It is a matter of common report that the government inspectors at Montreal not very long ago condemned a considerable number of cattle suffering from actinomycosis, which had been sent to that city from distillery sheds in this country for exportation. It may or it may not be true, but it is reported that this disease is not at all uncommon among cattle in distillery stables. Whether the mode of fattening beef cattle on distillery grains renders them susceptible to this and other diseases we are not prepared to say, but the subject is of sufficient importance to call for a thorough investigation by the Bureau of Animal Industry.

It seems to be a short-sighted policy on the part of the Whiskey Trust and their allies to arraign the Live Stock Commissioners for carrying out measures designed for the protection of the public health, and which, if well performed, tend to relax the restrictions against the sale of Chicago dressed beef in other markets, and thereby broaden the trade.

The willingness of the slaughterers and shippers in Chicago, heretofore publicly announced, to submit to the most rigid and searching inspection and the appointment of State Commissioners to investigate the cattle industry, with the object of eliminating all diseased or suspicious stock, has done much to satisfy the people as to the quality of their cattle and beef. Remove these restrictions, and public confidence is shaken. The enforced sanitary inspection of the great stock-yards and slaughter-houses of Chicago is of more than local importance, and the people of a large section of the country will watch with keenest interest the outcome of the mercenary effort that is being made to baffle the authorities in their attempts to enforce the law directed against a most pernicious practice.

"ETHICS BORN OF UNWORTHY GREED."

AN article with the foregoing title, first appearing in the *Chicago Tribune*, as if from a New York correspondent, has been somewhat extensively copied in other newspapers. It illustrates again the common ruse of charging one's opponent with the identical sin of one's own heart. Controversy is thus befogged, and responsibility shifted. It is a well-known psychological habit of a certain class of minds, when they feel the stings of conscience, to cry, Devil, Devil!

The article in question, with interlarding of much personal vituperation of THE NEWS, repeats with monotonous iteration that THE MEDICAL NEWS, or its editor, in ridiculing the KEELEY cure, writes not with the thought of "the possible good of the

people, but for the mercenary benefit of himself, the motive being a monetary one."

Oh, no! The "mercenary benefit" would follow the purchase from KEELEY, for some $40,000, of a limited territory wherein to practise Keeleyism.

After commending as wise our remark as to the heinousness of advertising a remedy whilst keeping it secret and making a fortune out of the secret, this "correspondent," with characteristic inconsistency, says:

"No profession of gentlemen can turn heaven and earth simply as a charity act, but each and severally they desire to learn the working formula used at Dwight, not for the possible patient or the brother professional, but for the almighty dollar which they believe to be in it for themselves. The repeated attacks, charges of being mercenary, of being inhuman, etc., support the thought that Dr. Keeley will sooner or later seek refuge from this constant persecution by making his secret generally known. To those knowing Dr. Keeley this would be a very fallacious hope. Dr. Keeley will retain his formula into a great futurity before trusting it in the hands of his persecutors."

The advertisement—for such it plainly is (note again how the quack controls, and even fools the newspaper!)—is signed T. B. TANNER, M.D., but the *Medical and Surgical Directory of the United States* contains no such name, neither does the *Medical Register of New York*, nor the *New York City General Directory*.

MESSRS. KEELEY, TANNER & CO. (*unlimited*) may rest assured that the medical profession has not the least desire to know their version of the formula. The essential ingredients of it have been well known since science has studied the history of human delusions and gullibility. The formula, with change of menstruum, was handed down from the medicine men of the most savage tribes of primitive times; APOLLONIUS TYANÆUS, CAGLIOSTRO, HAHNEMANN, and MADAME BLAVATSKY, learned it by heart; all the "seers" and "healers," all the priests and priestesses of modern medical spiritism, faith-cure, astrology, etc. etc.; all advertising physicians; every patent-medicine man, every mountebank of the street-corners, knows all about it. It may be called bichloride of gold, compound oxygen, wizard oil, hoodoo, or *similia similibus*—it is all one!

THE MORALS AND AMENITIES OF MEDICAL CONTROVERSY.

THE *Hahnemannian* for December notifies its contributors and readers that "the editors are responsible for the maintenance of the dignity and courtesy of the journal, and that no discourteous communications will be recognized."

The same issue contains an editorial article wherein, in less than a page, the following are only a portion of the epithets, charges, and comparisons applied to the editor of THE MEDICAL NEWS: "This freak;" "A tallow candle going out with a bad smell;" "Virulence;" "Bigotry;" "Mendacity;" "Blackguardism;" "Mud of bigotry;" "Childish effusion;" "Dr. Jekyll and Mr. Hyde;" "Chameleon;" "Fawning;" "Nightmare;" "Horror;" "Dreams and hints of cut-off salary;" "Squirming;" "Wriggling;" "Crawls;" "Cries Wolf;" "Don Quixote;" "Brave(?) knight;" "Fear of a loss of sustenance;" "Gnashes his teeth;" "Cringingly begs for mercy;" "Sneakingly slurs;" "Not truthful;" "Not honest;" etc.

These gentle courtesies and samples of matchless irony are brought to an end thus: "For the sake of medical journalism, for the sake of an art and science too noble to be dragged in the mud of bigotry, self-interest, mendacity, and blackguardism, may this candle indeed go out, and forever!"

It is worthy of attention that the literary taste displayed by the editor in this exquisite illustration of his "notice" (to readers concerning editorial responsibility for dignity and courtesy) quite overtops the ethics and urbanity there exemplified. One smiles and wonders, for example, how "the little end of the horn" can "go out with a bad smell;" in what manner a "pen" can be "newly-hatched;" if the changes of the "chameleon" and of "Dr. Jekyll" are comparable; how "a bad smell" can be "forgiven," or how it can "rest in peace;" if, really, "Don Quixote" ever cried "Wolf;" how the "highest rank of initial [why *initial?*] virulence and bigotry" can also be "a childish effusion," etc. etc.

For the better understanding of any that may read these lines, and who have not seen the previous issues of THE NEWS in which homeopathic affairs have briefly and rarely been alluded to, it may be well to say that in these columns personalities have had no place. The tenets, theories, and practice of so-called Hahnemannian medicine have been discussed, but without reference to individual practitioners or editors. We have not the faintest spark of personal feeling in the matter.

Such things would not be worth notice did they not among others strikingly illustrate how pauper-

ism of argument and reason, since Euripides at least, flies to passion, objurgation, and personal abuse to hide from itself (again to quote the courteous editor of *The Hahnemannian*) its "trying position" and "sorry plight." One could not wish for an opposing counsel more to his liking. No answer is required, because the plea is quashed and *nolo contendere* ludicrously admitted by hysterics and incoherence. But the cause that is trusted to such advocates must, indeed, be weak and foredoomed.

Ὅταν δὲ δαίμων ἀνδρὶ πορσύνῃ κακά,
Τὸν νοῦν ἔβλαψε πρῶτον.

THE PRIEST-PHYSICIAN OF BAVARIA.

AN interesting and instructive monograph has been published by "Sebastien Kneipp, Parish Priest of Wörishofen, Bavaria," on his method of healing disease and preserving health. It would seem that the "water-cure" has had considerable vogue, since the worthy Pfarrer himself describes the visit of Baron Rothschild to the little Bavarian village, travelling in his private car, with cook, secretary, and servants. The Baron took the medicine without flinching, the principal prescription apparently being a daily evening promenade ("to the wondering admiration of the gaping crowd"), bareheaded and barefooted, in a meadow near the railway station. This walking barefoot in the wet grass or snow is an important part of the "system," of which other parts consist in bathing with the clothing not removed, or without drying the body after a bath, the clothing put on the wet body at once, etc. Cold-water baths and mineral-water baths are emphatically condemned. Simple medicinal preparations are used, but it is evident that the chief reliance is placed on the influence of the imagination and the arousing of the will. Evidence of this is seen in the description of the priest's personal appearance:

"A white-haired old man of imposing figure, tall and commanding, and with a powerful face, to which specially dark bushy eyebrows give peculiar character. There is something positively majestic about him; the secret of his power lies in the eyes, looking out at one as they do from the shadow of these prominent brows; his eye looks as though it could penetrate the inmost workings of the soul."

The foregoing description reminds one most forcibly of the descriptions of Father Mollinger.

It is a strange fact that most people, more or less unconsciously, have confidence in what a man says if he but speak with sufficient earnestness, and if a powerful will and commanding personal appearance give added weight to the assertion. All medical miracle-mongers and quack advertisers trade upon this characteristic of human nature.

THE PROPORTION OF ALBUMIN IN URINE.

WE call attention to a communication in another column of THE MEDICAL NEWS, in which the unfortunate practice of designating the quantity of albumin present in urine by the proportionate bulk precipitated by heat is justly criticised. That this procedure is not only crude and unscientific, but in its results absolutely inaccurate, is amply demonstrated by the data presented in the letter of our correspondent. Of course, the only accurate way of determining the quantity of albumin present in urine is by careful volumetric analysis. This, however, the busy practitioner has neither time nor inclination to carry out; nor is it absolutely necessary for ordinary clinical purposes. Approximative estimates here amply suffice.

Our own method has been to have a mental standard in accordance with the density and thickness of the ring developed by the contact-method of overlaying nitric acid with the urine in which the proportion of albumin is to be determined. In our hands the application of heat to the upper half of the column of clear, acid urine in a test-tube has furnished the best results in the qualitative determination of albuminuria. When heat occasions a slight turbidity indicative of the presence of albumin, and the contact-method fails, we speak of a trace. When, however, we are able to detect a ring by the contact-method, we speak of a thirty-second, or a sixteenth, or an eighth, or a quarter, or a half (and so on) per cent., in accordance with the density and thickness of the ring of coagulated albumin. Only approximative, the method answers admirably for comparative observations, and, while not precise, it possesses the virtue of not being grossly inaccurate and of not being a means of conveying false conceptions, both of which restrictions apply to the designation of the proportion of albumin according to the bulk of the precipitate thrown down by heat. It is at least highly desirable that some uniform method of designation should be adopted.

THE U. S. MEDICAL PRACTITIONERS' PROTECTIVE ALLIANCE.

WE are indebted to the *Maryland Medical Journal* for a just word of warning concerning the medical standing of some of the officers of the U. S. Medical Practitioners' Protective Alliance. The objects of the organization, as set forth in the report, constitution, etc., are so excellent that it is a double pity — supposing true the charges as to the advertising practices, etc., of the officers—that a cause so worthy should not have found the most unexceptionable advocates and leaders. It should not be forgotten, however, that lukewarmness or indifference on the part of physicians to the *stated objects* of the Alliance still remain none the less inexcusable.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

SECTION OF GENERAL MEDICINE.

Stated Meeting, November 17, 1891.

DR. BEVERLEY ROBINSON read a paper entitled, "Creasote in the Treatment of Pulmonary Phthisis." Dr. Robinson stated that he considered creasote as the most valuable medicinal agent we have at the present time for treating pulmonary tuberculosis. In nearly all cases marked improvement in the symptoms follows its use. The cough is much diminished in frequency and severity; the expectoration is diminished in quantity and changed in quality; the nutrition is improved; the weight is increased; there is augmented strength and activity; costiveness of the bowels is relieved; night-sweats often disappear. Even in the advanced stages of the disease, when cavities are present, the cough is sometimes ameliorated. The temperature is often favorably influenced by the drug. In several instances the bacilli have entirely disappeared from the sputum, as proven by repeated microscopical examinations. In some cases the expectoration stopped entirely. The physical signs in these cases were also improved. The moist râles disappeared, the breathing became less harsh, and the areas of consolidation smaller. In some cases in which cavities were present at the apices, a marked degree of contraction had followed the use of the drug.

There are few contra-indications for the use of creasote and these few can usually be obviated by its careful administration. Occasionally the stomach does not tolerate it. It may produce headache, or abdominal pain. These unpleasant manifestations may be due to a too rapid increase of the dose, or to a personal idiosyncrasy of the patient. They are to be overcome by diminishing the dose or interrupting its use for awhile. If the drug occasions diarrhea, the same rules apply, or an opiate can be added to each dose. As to the effect of the drug on the kidneys, Dr. Robinson said that usually it is not present in the urine, although it is found there occasionally and in some cases he has recognized a passing albuminuria. When large doses of creasote are given the urine should be examined every few days. In cases of already existing renal trouble he has observed no ill effects from the use of the drug. In regard to hemoptysis, it is claimed that creasote in appreciable doses causes congestion of the bronchial mucous membrane and induces hemoptysis. Dr. Robinson said that nothing in his experience corroborates this view. In regard to the drug itself, the best form to use is that obtained from beech-wood. Much of the so-called creasote that is dispensed in the drug-shops is composed of impure carbolic acid. As for the dose, he begins with small quantities, from one-half to one minim three or four times a day, and later on every two or three hours, if the stomach will tolerate it. Gradually carry it up to from twenty to twenty-five drops in twenty-four hours. One of his patients had taken as much as seventy-two drops daily.

Dr. Robinson said that he had never recognized the advantages of the subcutaneous use of the drug, excepting that larger doses may possibly be administered in that way. Frequent and long inhalations of the drug he regards as extremely useful as an adjunct to its internal administration. The inhalations often improve the condition of the larynx and relieve an obstinate cough. His favorite method of inhalation is by means of the perforated zinc inhaler. For the purpose of inhalation the drug must be combined with alcohol, one dram to the ounce, to prevent irritation.

DR. WILLIAM G. THOMPSON stated that his experience with the use of creasote in pulmonary tuberculosis was so thoroughly in accord with that of Dr. Robinson that he had very little to say on the subject. He has been in the habit of selecting beech-wood creasote and prescribing it in emulsion, or in the form of an enteric pill formulated by Dr. William H. Flint. He has also used Dr. Robinson's inhaler. The drug should be pushed to the limit of physiological toleration. He has never observed any toxic symptoms follow the use of the drug, or any increase in the amount of albumin in the urine in cases in which albuminuria already existed. In conclusion he stated that creasote seemed to him to be the most satisfactory and reliable drug that we have for the treatment of ordinary cases of phthisis, especially in the first and second stages.

DR. WILLIAM H. FLINT stated that his attention was first called to the value of creasote as a therapeutic agent in phthisis by Dr. Robinson's admirable article on the subject, published some years ago in the *American Journal of the Medical Sciences*. He has used it uninterruptedly since that time and regarded it with continually increasing favor. He usually administered the drug in the form of a pill, in which form he thought larger quantities could be borne by the stomach.

DR. WEBBER stated that he has used creasote in the treatment of pulmonary tuberculosis since 1888. In one class of patients in whom well-developed bilateral lesions existed, he had failed to notice any improvement follow the use of the drug, and the patients died. In another class of cases, in which the lesion was unilateral, and in which the sputum showed but few bacilli and no spores, marked improvement in the symptoms was

noted. Dr. Webber said he had never gone beyond ten drops of the drug three times a day.

DR. JAMES P. TUTTLE said that, according to his experience, the stomach does not bear creasote well, especially in advanced cases, where there is always more or less weakness in that direction. He has in a number of cases used the rectum as a medium for the administration of the drug, and within an hour after such an injection the odor of creasote can be detected in the patient's breath, and the patient also can taste it, showing that it is exhaled by the lungs. In making these injections he combines the creasote with sterilized oil. In this way he has carried the dose up to sixty minims in twenty-four hours, using pure beechwood creasote. The benefit of this method of administration is that the stomach is not deranged, and tonics can be given at the same time. In one case he was compelled to discontinue the use of the drug on account of a mitral lesion of the heart. With every administration of the drug the patient manifested great depression, extreme rapidity of the pulse, and a sinking condition amounting almost to fainting.

THE CHAIRMAN (Dr. Francis Delafield) stated that he has used creasote in cases of pulmonary tuberculosis as a matter of routine practice for a number of years. He thought that perhaps he had not used it with sufficient enthusiasm, and that while the drug unquestionably is of service in some cases, the mortality of the disease is still a very considerable one. The good effects he had got were principally as regards the bronchitis. In many cases he thought the bronchitis was responsible for many of the symptoms, and a chronic bronchitis, with the production of mucus and pus, whether it occurs with tuberculous inflammation of the lungs, or by itself, is very favorably affected by the use of creasote. As regards its administration, he prefers the method of inhalation, keeping it up for a considerable part of the day; or the employment of enemata.

CORRESPONDENCE.

NEW YORK.

The Abuse of Medical Charity—The Office of Coroner—Arsenical Poisoning from Wall-paper.

THE well-worn, but not yet threadbare, subject of the abuse of medical charity has quite recently again been brought to our notice by a vigorous article read by Dr. W. H. Bates before the Society of Medical Jurisprudence. He deals with this knotty problem in a wide-awake, practical manner, and draws a faithful pen-picture of the present condition of the medical charities in this city so true to life that no physician familiar with dispensary work can fail to find in it a record of his daily experience. Nor has the author been less painstaking in his search for the causes underlying this miserable state of affairs, as well as for the best remedy. He first calls attention to the fact that more than one-third of the population of this city ask for and obtain medical charity, and that the amount of free work done in the hospitals has increased 90 per cent. in the last decade, while the population has increased less than 50 per cent. He thought that the persons who were the proper objects of medical charity were those whose individual income was less than $500 yearly, for the reason that many such persons do actually pay their physicians. It is a well-known fact that many physicians earn the principal portion of their comfortable income from the people living in the tenement-houses, and that many leading physicians are willing to treat patients for the smallest fees, provided the appointment be arranged so as not to inconvenience the physician. The author then gives a number of instances, which I am sure from my own experience are of daily occurrence, in which people who are abundantly able to pay *something* to the physician visit the dispensaries, and perhaps after awhile, becoming disgusted with the slow progress of their case, go to some private physician and pay well for their treatment. Many dispensary patients lose half a day from their work every time they attend the dispensary; the time saved by being treated by a physician at his office would, in very many instances, enable them without difficulty to pay the physician quite fairly for his services. Investigations on an extended scale have shown that 50 per cent. of the applicants for medical charity are undeserving, and some inquiries have shown the proportion to reach as high as 80 per cent. One fact that is often overlooked in discussing this subject, is the great injury done to the *deserving* poor by overcrowding the dispensaries with those who should seek treatment elsewhere. In this way the time that can be devoted to each patient is reduced, and great haste increases the number of mistakes in diagnosis and diminishes the chances of speedy cure. It is not at all uncommon in large dispensaries for the physicians to devote on an average only one or two minutes to the examination and treatment of each case. Occasionally even the patients themselves stand aghast at the rapidity with which they are ground out of the dispensary mill. I am reminded in this connection of an incident that occurred a few weeks ago in one of our dispensaries. A man who had been to the dispensary several times before, and had always acted in a respectful and orderly manner, seemed disposed to grumble while waiting at the drug-store for his medicine. When asked what was the matter, he replied with an oath that he did not believe that any man living could tell what was the matter with him in eight seconds. It has often been claimed that systematic investigation of the circumstances of those who apply for medical charity would effectually remedy the evil, but experience does not bear out this statement, as the investigation by agents of the Charity Organization Society of suspicious cases applying at one of our dispensaries where thirty thousand new patients are treated annually, only lowered the abuse of medical charity 10 per cent., and in another dispensary, as a result of five years of work, the reduction was 25 per cent. This plan has proved impracticable on a large scale, partly on account of the great number of agents required to do the work properly, and partly because the patients, after being refused at one dispensary, learn how so to modify their story as to be more successful when they apply at another dispensary. The remedy that Dr. Bates suggests is, that every patient who applies to a dispensary shall *sign* a written statement, giving his address, total

income of the family, number in the family, and other similar details, and that it be made a misdemeanor, according to the laws of the State, for any person to make a wilful misstatement in filling out such an application. There are, of course, many objections that might be offered to this plan, most of which, however, are theoretical; and the strong point in its favor is that it has already been successfully employed by the Charity Organization Society in preventing the abuse of general charity.

Another matter that often elicits much unfavorable criticism from our physicians concerns the office of coroner. Most of us will admit that the system is not what it should be, or else that those in the office do not carry on its functions properly. How to improve this order of things was the subject of discussion at a recent meeting of the Section of Public Health at the Academy of Medicine. The discussion was opened by a paper by Dr. Stephen Smith, in which he stated that the functions of the coronor were chiefly medical and judicial, and that he thought it would be better to make the medical inquiry a part of the work of the Health Department, where the examination by medical experts would often render judicial inquiry unnecessary. The registrar of vital statistics of the Board of Health would have charge of the verification of deaths, and would discriminate between the death certificates that were entirely satisfactory and those that were not quite satisfactory. The latter class would then be personally investigated by assistants, and if there were any evidences of crime the attorney of the Board of Health, or one from the District Attorney's office, could take testimony and compel the appearance of witnesses before a court appointed to take the first proceedings in the case. Meanwhile the medical officer would make a thorough examination in a suitable place set apart for that purpose. As we have through the agency of the State Board of Health a most complete system for the verification of deaths, extending to the most remote places, and as the health officer in the country districts is generally far more competent than the man elected to act as coroner for the county, it follows that but few changes would be necessary in adopting this modified system. Mr. Clark Bell, after an exhaustive study of the subject, had come to the conclusion that no constitutional amendment would be necessary, as the needful changes could be secured by simple legislation.

In the discussion that followed the reading of this paper, Dr. Philip Donlin defended the coroner's office, and gave a sketch of the extent and character of its daily work. He suggested that by having more coroner's physicians and better accommodations at the morgue for examinations, the work of the office could be much improved, and many pathological investigations carried on that would be of lasting benefit to medical science.

Mr. Ellinger, who was formerly coroner for a period of six years, also favored having more coroner's physicians, and thought it would be an improvement to have the term of service of the coroner extended to the same length as that of a police magistrate.

After the discussion, it was recommended that the Academy of Medicine appoint a committee to confer with the medical and medico-legal societies in the city concerning needed reforms in the coroner's office.

A year has passed since the Academy took possession of its new and handsome building, and at the first anniversary meeting a popular address was delivered by Prof. Charles F. Chandler on "Arsenic in Common Life." In this address he devoted himself to the task of exploding the widely prevalent idea, both in lay and professional circles, concerning the dangers from arsenic in wall-paper. He said that he had himself believed in it without ever making any special investigation, up to the time when his duties in connection with the Board of Health required him to make it a special study. He then found that the idea had been started by a botanist, and that it was based on the most flimsy reasoning. He next made some experiments in the laboratory by passing air over sheets of paper—some moist and others dry—coated with Paris-green. Not a trace of arsenic was found in this air. Much of his address was devoted to a narration of cases that had occurred in Boston during a time when the people in that city were much excited over the supposed dangers from arsenical wall-paper. The most important case was that of an ex-mayor of Boston, who had been supposed to be suffering for a long time from this form of poisoning, but the post-mortem examination showed that he had died from cancer of the stomach. The wall-paper that had been supposed to be the source of the poisoning in his case had not been changed from 1817 to 1891. While it is quite possible that in the old-fashioned wall-paper, that the arsenical dyes were loosely attached to the paper, the arsenic might become detached and diffused through the air, the amount would ordinarily be quite insignificant; and in the wall-papers made in the last fifteen years no arsenical pigments have been used, and the presence of arsenic in these papers, as determined by delicate chemical tests, is due entirely to accidental impurities. Some of the papers that were thought to have caused poisoning had been on the walls for thirty or forty years. Supposing, for the sake of argument, that there were sixty square yards of paper in a room, each yard containing one grain of arsenic—the amount found in several of the cases quoted—and that during a period of thirty years *all* the arsenic had left the wall paper and had entered the human system without any being lost, this would be at the rate of one grain in six months, or only $\frac{1}{180}$ of a grain in each twenty-four hours. Many distinguished scientists have independently investigated this subject of poisoning from arsenical wall-paper, and they all agree in saying that there is "nothing in it."

REMARKS ON PROFESSOR GOODELL'S PAPER IN "THE MEDICAL NEWS" OF DECEMBER 5TH.

To the Editor of THE MEDICAL NEWS,

SIR: The current literature of abdominal and pelvic surgery is burdened, even cursed, with productions from those who have little natural surgical aptitude, no originality, less genius and still less wisdom born of experience. The average practitioner is forced to winnow the wheat from the chaff in such an article. He considers the source from which it emanates, and is unlikely to use a method of practice which he sees is based on theory, is dangerous, or has little or no practical utility. The

effect on the general practitioner and amateur operator is very different when he reads a production from the pen of the distinguished teacher and operator, Prof. William Goodell.

With these thoughts in mind I offer a few remarks concerning his article. I indorse much contained in this valuable paper. As an American I am deeply interested in the success of American operators. Professor Goodell makes the statement that many, perhaps the majority of American gynecologists, following the lead of Péan and Richelot, have adopted the procedure of securing the broad ligaments with forceps, and adds that there is hardly one, not excluding himself, who has not invented a special form of clamp. To me it is a matter of indifference how many operators have invented forceps. It is, however, a matter of great importance if any forceps has been invented and a principle of operating has been perfected by which the broad ligaments are first narrowed to a round mass and brought well down into the vagina so that the peritoneal lining of the pelvis can be closed above by perfect sero-serous approximation. The forceps that I use has a beak so constructed as to assist in bringing the peritoneum together above their grasp, thus securing absolute extra-peritoneal fixation of the stumps of the ligaments.[1]

Dr. Rufus B. Hall, of Cincinnati, who recently used the same forceps, writes me: "The principle of puckering up the ligaments is correct."

Of course, when ovaries and tubes are removed I prefer the silk ligature left long, but even then the peritoneal cavity must be perfectly closed (except where a small drainage-tube is inserted to remain twenty-four hours only).

Professor Goodell has less objection to the progressive silk ligature than to the forceps. In abdominal or vaginal hysterectomy I am an advocate of the silk ligature, but always aim to unite the serous membrane, so that there will be no raw surface left in the peritoneal cavity. After having seen Prof. Olshausen and other distinguished German operators use catgut, I am convinced that while experts like Olshausen and Goodell can secure faultless catgut and have ideal results with it, the average operator would have more deaths from hemorrhage and septicemia than recoveries, and would have better results with forceps constructed on proper principles, or with the silk ligature, which in itself affords capillary drainage from the tissue within its grasp. If daily subjected to tension it nearly always comes away by the end of the second week.

When serous membranes are nicely adjusted I have repeatedly found firm union in forty-eight hours, so that vaginal irrigation gave the patient relief by cleansing the wound now absolutely shut off from the peritoneal cavity and within reach of antiseptics.

I have no fears whatever of the antiseptic wash breaking up the adhesions of a serous membrane. By first puckering the broad ligament to a round mass and accurately approximating the serous surfaces I have recently had a series of twenty-one consecutive vaginal hysterectomies without a death. I am an uncompromising advocate of vaginal hysterectomy, believing it to be the best palliative treatment for cancer of the uterus, if nothing more, and for this reason I want to see all who undertake this operation enjoy the largest possible measure of success.

JOSEPH EASTMAN, M.D., LL.D.

INDIANAPOLIS.

[1] See THE MEDICAL NEWS, August 1, 1891.

THE RAGE FOR NEW DRUGS.

To the Editor of THE MEDICAL NEWS,

SIR: There appeared in THE MEDICAL NEWS of November 7th an able and vigorous editorial article based upon the report of a case of poisoning by "antikamnia," calling attention to the dangers of prescribing pharmaceutical products the composition of which is unknown, and roundly denouncing manufacturers for foisting such goods upon the profession.

But the substance named is only one of hundreds of so-called new remedies, the manufacturers from the sale of which, with the aid of the medical profession, are waxing rich. These preparations are effusively lauded to physicians by their introducers, and thrust upon our notice in every conceivable way—and it is rarely the case that the extravagant and often ridiculous claims made for them are not fortified by apparently reputable medical authority. This appears to be, in fact, a *sine qua non* to "success" in the new venture.

For the real cause of this evil, however, it seems to me that we need not go so far from home as to the chemist or to the pharmacologist. It is but incidental to a far greater evil that pervades the medical profession and for which physicians themselves are responsible. I refer to the craze for therapeutic novelties—the mad rush for new remedies that has been observable for the last few years.

It is a deplorable fact that manufacturers are not more eager to sell their new, fancifully named products than physicians are to prescribe them. Scientific conservatism has been flung to the winds and a spirit of reckless experimentation seems to have taken possession of the profession. The pharmacologists and chemists are merely profiting by the occasion. The credulity and the recklessness of physicians mean dollars and cents to the manufacturers. As between the latter and the physicians who prescribe their nostrums and by whose encouragement and patronage they thrive, the manufacturers are the less culpable.

It is indeed "time to speak plainly and to act courageously." It is time for such leaders in true medical progress as THE NEWS to call a halt upon the present reckless, indiscriminate, and dangerous practice of prescribing new and untried pharmaceutical products. It is not because of this tendency, but in spite of it, that the real advance in modern therapeutics has been made. No "new remedy" should find a place in the armamentarium of the private practitioner until its physiological and therapeutic actions have been carefully studied and its value proved by observers of unquestioned competency.

GEORGE EMERSON SHUEY, M.D.

MACCLENNY, FLA.

MAXIMUM PERCENTAGE OF ALBUMIN IN URINE.

To the Editor of THE MEDICAL NEWS,

SIR: In THE MEDICAL NEWS of December 5th Dr. C. S. Stewart, in a clinical report on the action of

nitro-glycerin, says that he found in his third case "fully 50 per cent. of albumin in the urine." This is not the first time that I have met with such an assertion. Many cases have been related to me in which the physicians stated that they had found from 25 to 75 per cent. of albumin. It would be interesting to know the method by which such a percentage is obtained.

Let it be supposed that 1200 c.c. of urine are on an average excreted per day; that quantity of urine would, if it contained "fully 50 per cent. of albumin," carry with it more than 600 grams of albumin. The albumin found in the urine is, in the majority of cases, serum-albumin, the escape of which from the blood into the urine is due either to a histological change in the epithelium of the kidney, or to abnormal blood-pressure.

Human blood contains about 8 per cent. of albumin, of which about 3.4 per cent. is paraglobulin, and about 4.6 per cent. serum albumin. The amount of blood in the human body is about one-thirteenth of the body-weight. Thus it may be easily calculated that, according to the foregoing assertions, the whole amount of albumin in the blood is less than the amount excreted in the urine in one day. The maximum found by Vogel (Neubauer und Vogel, *Harnanalyse*, 9th ed.) was 28.3 grams per day, or 2.35 per cent. G. M.

WORMS IN THE AUDITORY MEATUS.

To the Editor of THE MEDICAL NEWS,

SIR: On June 13, 1886, G. B., a boy, twelve years of age, was brought to my office by a gentleman, who stated that he had extracted four worms from the boy's ear. Upon examination of the ear, I found catarrh of long standing, with purulent discharge and perforation of the drum. I also readily succeeded in extracting eight more worms, making twelve in all that were dislodged from the meatus that day. They were doubtless of the variety known as the fly-worm. The green fly, being attracted by the aural discharge, deposited its ova, from which developed the grubs.

W. T. SKINNER.

GLASGOW, DEC.

REVIEWS.

A PRACTICAL TREATISE ON THE DISEASES OF WOMEN. By T. GAILLARD THOMAS, M.D., LL.D. Sixth edition, enlarged and thoroughly revised by PAUL F. MUNDÉ, M.D. Philadelphia: Lea Brothers & Co., 1891.

THE character of the previous editions through which this book has passed insure it in its new form a hearty reception at the hands of the medical profession. The sound conservatism of the work is in no way impaired by the progressive teaching evinced in the present revision. A text-book upon the diseases of women, to be of use to students and general practioners, can meet the varied requirements only by presenting the subject in the light of knowledge possessed by an author of exceptional experience. Such an author must know what to avoid as well as what to include in his subject. Extreme ideas, because alluring to the writer, should find no place in such a text-book. If the extensive experience of the author in this instance has already entitled him to his present position as a teacher, the revision of his work by one who offers "an active experience of twenty-five years as a writer and practitioner in the same specialty" cannot fail to increase the existing confidence of the profession in such a work.

The fact, however, of the reviser, as the result of his own experience, possessing mature ideas upon those subjects in which he may hold opinions at variance with those of the author, makes it difficult for him to so far modify his own views as to offer to the reader the impression of a conclusive opinion. This difficulty is increased by the necessity of the reviser stating in brackets his own views when differing opinions exist. This appears like an interruption to the text, although the reader finds the advantage of being able, in this way, to compare the views of two writers.

In regard to the arrangement of the book we think that it would have been more scientific to have described the inflammatory and positional disorders of the uterus in juxtaposition to the neoplasms, without separating these topics by introducing the chapters on para-uterine cellulitis, pelvic peritonitis, pelvic abscess, and pelvic hematocele.

The author's views upon the significance of laceration of the cervix serve as a wholesome correction to the enthusiasm of those that at present decry trachelorrhaphy, as well as the other procedures included under the head of minor operations.

The chapter on electricity, added since the last edition, is in every way to be commended. The clearness of the descriptions and the conciseness of statement render the contents of this chapter invaluable to the student, while the conclusions of the writer, as the result of a large experience, appeal to the more experienced practitioner.

We regret that the chapter on pelvic hematocele has not dealt more fully with the question of causation, relative to ectopic gestation. In view of the recent advance in this subject the writer's views would have been interesting not only to the specialist, but of great value to the student. The critical reader will find the chapter on diseases of the Fallopian tubes well up to the standard of our knowledge at the present time, especially on the subject of drainage. The use of the clamp and cautery, although mentioned in the text, is not insisted upon; and while the chapter contains all that is essential to a thorough knowledge of the technique, simplicity of method—so universally adopted now among surgeons—is clearly advocated. The profession will receive with gratification the wholesome warning "against the indiscriminate, hasty, and routine performance" of laparotomy in the treatment of diseased appendages.

The teaching in this work is preëminently conservative and at the same time progressive. Its value to the profession lies in the fair discussion of opposite opinions and the absolute avoidance of even an appearance of dogmatism.

ESSENTIALS OF PHYSIOLOGY, ARRANGED IN THE FORM OF QUESTIONS AND ANSWERS; PREPARED ESPECIALLY FOR STUDENTS OF MEDICINE. By H. A. HARE, B.Sc., M.D., etc. Third edition. Philadelphia: W. B. Saunders, 1891.

ACCORDING to the notice on the title-page of this third edition, it has been "thoroughly revised," and in his preface the author assures us that he earnestly desires

that the depth and scope of medical education may be increased. But the volume contains much that disproves the truth of the notice and the sincerity of the assurance. There is also everywhere an incomprehensible and slovenly use or abuse of the English language. We can cite only a few of the many illustrations that have struck the attention in turning the pages. Take the first sentence: *Physiology is the study of vital phenomena, which are always present in living things be they animal or vegetable.* One can only ask, Where but in living things could vital phenomena be present? Why the word *always?* and where except in animal or vegetable things are vital phenomena seen?

If it be worth mention, why not correctly state the number of chemical elements?

What nonsense to say that "the saline taste of the blood is dependent upon the salts contained in it."

The amazing answer to the question, *What are the physical forces of the circulation?* is too long to quote.

What would a physiologist say to the statement that "the blood descending in the femoral artery shoves the blood up the corresponding vein?"

The optic nerve is said "to appreciate light," "yet light can never be said to produce activity of the nervous protoplasm by contact."

As to the function of the choroid coat, not a word is said about its true function, or its vessels, but much about its "black pigmented cells"—which do not exist. The pigment layer belongs to the retina.

"Each portion of the retina" is said "to receive different colored rays. The peripheral portion sees the red rays, etc."

Diplopia is said to be "due to the fact that each eye receives the impulse at a different time from the other."

Hypermetropia is defined as a condition "in which objects are focussed behind the retina," and the lens of the myopic eye is said to be "too convex, while in the hypermetropic eye it is not convex enough."

The function of the Eustachian tube is said to be "to equalize the pressure within and without."

The plates from Arnold's *Icones Nervorum Capitis* are most excellent.

THE SURGICAL TREATMENT OF WOUNDS AND OF OBSTRUCTION OF THE INTESTINES. By EDWARD MARTIN, M.D., Instructor of Operative Surgery, University of Pennsylvania, Surgeon to the Howard Hospital, Assistant Surgeon to the University Hospital, and H. A. HARE, M.D., Professor of Therapeutics, Jefferson Medical College; Attending Physician to St. Agnes Hospital. 8vo., pp. 169. Philadelphia: W. B. Saunders, 1891.

THIS essay was awarded the premium of the Fisk Fund by its trustees at the annual meeting of the Rhode Island Medical Society, held at Providence, June 12, 1890, and this distinction should be a sufficient guarantee of merit.

The subject of intestinal obstruction is dealt with in twelve chapters; two additional chapters are devoted to wounds of the intestines, the whole being rounded off by a very complete collection of 130 cases of celiotomy for gunshot wounds of the abdominal cavity, which are very instructively analyzed in the final summary.

The various subjects embraced under the vast and comprehensive title of intestinal obstruction are generally treated with judicious discretion and well-balanced judgment. If there is a distinctive feature that is everywhere recognizable in this essay, it is its conservatism. In all conflicting questions, in which the contending parties are liable to run to extremes, we find the authors invariably inclining toward the safe old percept *in medio tutissimus*, etc., the verdict of the authors being generally grounded on sound reason. This tendency is well illustrated in the chapter on peritonitis, in which the authors are neither exclusive advocates of purgation *à la* Tait or of opium *à la* Alonzo Clark. There are cases for opium and cases for salts, and they tell us which are the cases respectively. In the diagnosis and treatment of obstruction, the relative merits of watery enemata and gaseous insufflation are considered. Here, in opposition to distinguished authority, the authors believe in the superiority of water as an injecting medium, especially for therapeutic purposes, and while many will not be prepared to admit the full extent of their contention, none will deny, after reading the argument, that there is more good service in water in the treatment of obstruction than some recent writers would teach us to believe. In connection with rectal injection, the important subjects of heat-preservation during the injection of the large enteroclysmata required in intestinal obstruction, as well as during operation, and the effects of intra-abdominal pressure produced by forced enemata, are studied in a clear and conclusive manner. This part of the work, which is already familiar to the readers of Philadelphia medical literature, is indeed most original and commendable, and is distinctly illustrative of the value of laboratory research to the clinician.

The spirit of conservatism is again manifested in the more strictly surgical sections. For instance, simple enterostomy as distinguished from the more formidable abdominal section, receives here an amount of attention and commendation that we would scarcely find in the writings of the more aggressive class of operators who barely tolerate it and show a decided disposition to relegate it to the past rather than refer to it as an operation of the future. In justice to Senn and his followers, we believe that a more extended reference to the relative merits of enterostomy and lateral anastomosis should have been made, since modern "aided" anastomosis has as decided a claim to be considered an emergency operation as enterostomy—though clinical data upon which the comparison could be instituted are still wanting and are only available by experimentation.

Much more could be said in the matter of technica details in intestinal operations than is contained in this work, though the essential operations are sufficiently described. It is probable that in a second edition the authors will lay more stress on the positive superiority of the plate over the ring as an aid to anostomosis, and will also insist more emphatically on the greater dangers of circular enterorrhaphy as compared to lateral anastomosis in enterectomy.

The hemoglobin test, suggested by the authors, in establishing the frequently perplexing differential diagnosis between shock and hemorrhage in abdominal injuries, may prove helpful to hospital and city surgeons. The test is a fairly accurate guide to the volume of blood

lost, and with the aid of the hemoglobinometer "can be made in two minutes."

The printer's errors are few, but of these one deserves attention: in page 120, the word "enterorrhaphy" appears instead of "enterostomy," an oversight that may easily lead to confusion.

EVIDENCES OF THE COMMUNICABILITY OF CONSUMPTION. By G. A. HERON, M.D. (Glasgow), Fellow of the Royal College of Physicians of London; Physician to the City of London Hospital for Diseases of the Chest. 8vo., pp. 167. London and New York: Longmans, Green & Co. Philadelphia: P. Blakiston, Son & Co., 1890.

DR. HERON believes that the bacillus tuberculosis of Koch is the sole and efficient cause of tuberculosis; that the disease is propagated by infection chiefly through the sputum of the phthisical, but also through infected meat and milk, and in other ways. He urges that the original experiments of Koch, since abundantly confirmed; the elaborate investigations of Cornet, especially those into the fatality of tuberculosis among the nursing conventual orders of Prussia—which are here reproduced—and the accumulating clinical evidences of transmission of consumption, much of which he cites in summary in an appendix, all combine to leave no doubt as to the correctness of the position taken. He therefore advocates the utmost care to prevent transmission by sputum and by infection of rooms, clothing, and so forth, and the legal slaughter and extinction of all tuberculous animals. The alleged immunity of Jews from tuberculosis is attributed in part to their sanitary laws, such as the annual scrupulous and exhaustive house-cleaning of Passover, and more especially the rabbinic ordinances as to "kosher" meat. The increase of tuberculosis among Russian Jews in London in the last two years he attributes in part to the brutal persecutions by which Alexander the Cruel has disgraced the Christian civilization of the nineteenth century, and in part to the fact that the refugees, having been robbed of their all by Russian officials, are compelled to herd in those districts of London where poverty and vice have long been breeding disease, and as a consequence have been exposed to the infection from which their religion and its laws of cleanliness and sobriety had hitherto protected them. In this he finds an additional confirmation of the view that phthisis originates by infection, and only by infection. While the reviewer does not subscribe to the extreme view of the author, he is at one with the latter in the practical lessons of precaution taught. The work is well done. It has a good index, and to English-reading physicians will be extremely useful for reference.

TRANSACTIONS OF THE TEXAS STATE MEDICAL ASSOCIATION. Twenty-third Annual Session, held at Waco, Texas, April 28, 29, 30, and May 1, 1891. Edited by HAMILTON A. WEST, M.D., Galveston, Texas.

THIS volume of the transactions of the Texas State Medical Association contains a series of papers of considerable interest and of practical importance. It is impossible to enumerate all the names of its contributors, or even to detail the important features of its most noteworthy articles; suffice it to say that the book is a credit to the Association and to its individual contributors, and will amply repay the reader for the time spent in its perusal.

The following is a list of a few of the contributions, together with the names of the respective authors:

"The Responsibility of the Medical Profession in the Use of Alcoholic Stimulants," by W. A. Morris, M.D.; "Points of Interest in the Clinical Examination of the Urine," by J. H. Wysong, M.D.; "Some Practical Observations on the Management of Albuminuria of Pregnancy," by J. F. Y. Paine, M.D.; "Wiring of the Vertebræ as a Means of Immobilization in Fractures and Pott's Disease," by B. E. Hadra, M.D., etc.

STORIES OF A COUNTRY DOCTOR. By WILLIS P. KING, M.D. With illustrations by T. A. FITZGERALD. Philadelphia: Hummel & Parmelee, 1891.

IN the nearly four hundred pages of which this volume is made up, the trials, incidents, experiences and observations that enter into the life of a country practitioner of medicine are portrayed with a certain dash of humor. The text is not only included between pages of advertisements, but in one or two places is interleaved with them. The book is otherwise neatly printed and bound. It may meet the wants of a certain class of readers.

MASSAGE: A PRIMER FOR NURSES. By SARAH E. POST, M.D., Lectures before the Training School for Nurses connected with the Bellevue Hospital, Mt. Sinai Hospital, and St. Luke's Hospital, New York, also with the Memorial Hospital, Orange, N. J. 12mo., pp. 47. New York: Nightingale Publishing Co., 1890.

THIS little book is to be highly commended for its lucidity and brevity. It does not attempt to teach the practice of medicine nor to throw upon the operator the responsibility for deciding when and how massage is to be applied for the relief or cure of abnormal conditions. It gives, however, clear, concise, and reliable directions as to the manner in which the instructions of the physician upon these points are to be carried out.

A COMPEND OF HUMAN PHYSIOLOGY: ESPECIALLY ADAPTED FOR THE USE OF MEDICAL STUDENTS. By ALBERT P. BRUBAKER, A.M., M.D., etc. Sixth edition, revised and improved, with new illustrations, etc. Philadelphia: P. Blakiston, Son & Co., 1891.

PROFESSOR BRUBAKER meets the continued demand for his manual with revision, enlargement and new illustrations. Barring the objection to be urged against all such works, no criticism of this capital little book can be offered.

CORRECTION.

In "A HINT TO THE LITERARY MEN OF THE PROFESSION," in THE MEDICAL NEWS of December 12, on page 682, the place of publication of the *Journal de Physiologie* should have been printed Paris, and not Berlin; and that of the *Archiv für klinische Chirurgie* should have been printed Berlin, and not Leipzig.

BOOKS AND PAMPHLETS RECEIVED.

Criminal Aristocracy; or, The Mafia. By Arthur MacDonald. Reprint, 1891.

On the Treatment of Diphtheria in America. By A. Jacobi, M.D. Reprint, 1891.

Extra-cranial Aneurism in Early Life. By A. Jacobi, M.D. Reprint, 1891.